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ABSTRACT

This project was conducted to develop a systematic approach for writing secondary production agriculture courses of study. A review of literature identified the major concerns in course development and provided a basis for the initial design of a course of study planning guide. The initial guide was written, then reviewed by the Agricultural and Extension Education staff of the Pennsylvania State University. The planning guide was reviewed by a screening committee consisting of 21 vocational agriculture teachers throughout the state of Pennsylvania, revised into its final format, and introduced at three workshops for Pennsylvania beginning vocational agriculture teachers. The guide, which will be field tested during the 1984-85 school year with Pennsylvania production agriculture teachers, includes the following topics: (1) identifying community needs, student needs, and job opportunities; (2) developing a program philosophy statement and list of objectives; (3) identifying the importance of an advisory committee; and (4) organizing a four-year vocational agriculture plan, including summer programs and supervised occupational experience programs. (The guide and numerous appendices of supporting materials make up the bulk of this document.) (Author/KC)

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The Pennsylvania State University

The Graduate School

Department of Agricultural and Extension Education

# The Development of a Course of Study Planning Guide for Vocational Agriculture

A Paper in

Agricultural Education

by

Susan E. Cromwell

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Education

May 1984

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## ABSTRACT

Developing a course of study can be a time-consuming and seemingly complex task for the vocational agriculture teacher. The development of a vocational agriculture course of study is essential for community-based vocational agriculture programs. The quality of many courses of study is poor, and three does not appear to be a standard format for developing vocational agriculture courses of study.

The purpose of this project was to develop a systematic approach for writing production agriculture courses of study. The product developed was the publication, "Course of Study Planning Guide." The planning guide contained the following major sections: (1) identifying community needs, student needs, and job opportunities; (2) developing a program philosophy statement and list of objectives; (3) identifying the importance of an advisory committee; and (4) organizing a four-year vocational agriculture plan, including summer program and supervised occupational experience program.

The literature review identified the major concerns in course of study development. Review of the literature provided a basis for the initial design of the course of study planning guide. The initial guide was reviewed by the Agricultural and Extension Education staff of The Pennsylvania State University. The planning guide was then reviewed by a screening committee consisting of 21 vocational agriculture teachers throughout the state of Pennsylvania. The vocational agriculture teachers had varying years of teaching experience and served as cooperating teachers for student teachers. The screening committee met as a group, evaluated, and revised the planning guide into its final

format. The planning guide was then introduced at three workshops for Pennsylvania beginning vocational agriculture teachers. As a result of using the guide in the three workshops, additional revisions were made to the planning guide. The guide will be field tested during the 1984-84 school year with Pennsylvania production agriculture teachers.

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# ACKNOWLEDGEMENTS

The author extends her appreciation to the many individuals who assisted in completing this project. The author is particularly appreciative to the vocational agriculture teachers who served on the screening committee for the course of study planning guide and the beginning teachers who served in evaluating the final draft of the guide during the program planning workshop. Their suggestions improved the quality and the content of the guide.

A special note of appreciation is extended to the members of the project committee: Dr. William Williams, Associate Professor of Agricultural Education, and Dr. Edgar Yoder, Assistant Professor of Agricultural Education. Their help, encouragement and review of the paper and planning guide are sincerely appreciated.

The author wishes to extend a special thanks to Dr. Robert Martin, Assistant Professor of Agricultural and Extension Education, Iowa State University, for the time, support and encouragement that he put forth.

Gratitude is also extended to the author's parents and family in their understanding and love shown throughout the development of the planning guide.

# CHAPTER I

## INTRODUCTION

Local school administrators and state department of education personnel are emphasizing the need to update local vocational agriculture curricula. They have requested vocational agriculture teachers to provide instruction that reflects the changing agricultural industry and changing student needs (Pennsylvania State Plan for Vocational Education, 1978-1982). As instructors attempt to update their courses of study, they have indicated that locating adequate information for developing courses of study is a major problem. Rubin (1977) indicated, "the curriculum, in short, is the heart of the educational enterprise, and is therefore correspondingly complex."

Vocational educators have long recognized the importance of curriculum planning, stating,

> the ultimate impact of effective planning will be quality curricula. Furthermore, graduates will be able to seek and obtain employment as well as carry on activities that fulfill personal needs in their lives. Effective planning can increase the opportunity for securement of adequate funds to generate vocational education. (Finch and Crunkilton, 1979)

Crunkilton and Finch (1979) have summarized the curriculum development process in three major steps. First, planning the curriculum involves establishing a decision-making process including collecting and assessing school related data and collecting and assessing community related data. The second step involves establishing curricula content. In this step, strategies to determine content must be utilized, content decisions must be made, and curriculum goals and objectives must be developed. Implementing the curriculum, the third step in this process, involves identifying and selecting needed materials, developing those materials, developing individualized learning packages, and evaluating the outcome.

Because accountability is at the heart of educational planning and little information is available to help vocational agriculture teachers write courses of study, a need existed for material which would help the vocational agriculture teacher construct an acceptable course of study.

## Purpose of the Project

The major purpose of this project was to develop a systematic approach to planning a comprehensive course of study for production agriculture programs in Pennsylvania.

## Objectives of the Project

In order to accomplish the purpose of the project, the following questions were identified.

1. What key components need to be included in a comprehensive course of study?
2. What units need to be included in a comprehensive course of study planning system for production agriculture?
3. What problem areas should be identified within each of the units?
4. Is this systematic approach to course of study planning usable for production vocational agriculture programs?

## Need for the Project

If educational programs are to be accountable, educators must develop courses of study that establish the need for quality programs meeting the needs of learners and the community. There appeared to be a lack of information regarding procedures to follow in developing local vocational agriculture courses of study. A simplified systematic approach to course of study planning was needed.

Developing a course of study need not be a wearisome task if a quality aid were available. A systematic approach to course of study planning should aid the teacher in setting short- and long-term instructional goals related to community needs. Rubin (1977) emphasized the importance of the course of study indicating the curriculum is the heart of the educational enterprise.

McCracken and Bartsch (1977) developed a manual to assist the vocational agriculture teacher in identifying subject matter content within specific instructional units. However, identifying subject matter content is not the only problem. The problem also is related to what should be taught, when it should be taught, and how much time should be devoted to each unit. These concerns are community specific. Most program planning aids do not assist the vocational agriculture teacher in planning the local course of study to meet community needs. The development of a flexible systematic course of study planning system would assist teachers in constructing a four-year vocational agriculture program that is community specific.

There are numerous steps in a systematic course of study development processes. These include conducting a community needs assessment, developing program philosophy and objectives is consistent with local school philosophy, and identifying and organizing the instructional units.

In developing the course of study planning guide, the previous steps were followed. An introductory step was also implemented to assess the need for such a planning system in the state by vocational agriculture teachers. Development and implementation of a curriculum planning system for use by the vocational agriculture teacher could make the job of curriculum planning a much more organized and meaningful task.

## Operational Definitions

Production Agriculture. A program area leading to a comprehensive study of agriculture. Major components include crop and animal science, along with the necessary agricultural mechanics. The complete program includes classroom and laboratory instruction, Future Farmers of America, and Supervised Occupational Experience (SOE).

Curriculum. A term used to describe all courses and all other educational activities organized by the school for the benefit of an individual student. Usually the courses and activities lead to a certain goal. The curriculum ultimately should provide learning opportunities to match cultural, vocational, and career goals as well as other individual needs.

Course of Study. An orderly sequence of investigations which lead students to acquire knowledge and develop understandings and insights, attitudes, values, and skills which prepare them to reach an educational or occupational goal. It is an outline of the planned classroom or laboratory activities, divided into units, which are further broken down into problem areas and lessons.

Program. An instructional area which represents a number of occupational titles. Example: agricultural production, agricultural mechanics, agricultural supplies and services, horticulture, agricultural resources, forestry.

Course. A combination of related units to be taught normally in one school year (36 weeks) or one semester (18 weeks). However, a mini-course could be six or nine weeks in length, depending upon local needs. Example: animal science, crop science.

Unit of Instruction. One segment of a course to present subject matter and competencies organized around one enterprise. The unit of instruction should be taught as a whole and is composed of important problem areas, which should be taught sequentially within each unit.

Problem Area. A term used to describe the major divisions of a unit of instruction. The problem area is a major consideration in the unit under study. Each problem area in a unit is directed toward helping the students acquire knowledge, skills and attitudes which lead to the achievement of unit objectives. Problem areas are organized and sequenced to help the student develop competencies in a systematic logical and orderly manner.

Lesson. A major division or part of the problem area usually fitting the time frame of one class meeting. The lesson's objective is the focus of the lesson and therefore represents the lesson title.

## Procedure

The major activity of this project involved the writing of a vocational agriculture course of study planning guide. The planning guide includes the following component parts:

1. Standards for exemplary programs in vocational agriculture;
2. School and department philosophy;
3 School and departmental goals;
4. Advisory committee members;
5. Community description, characteristics and resources;
6. Guidelines for using the format pages;
7. Format pages for units;
8. Format pages for problem areas;
9. Removable gum labels for a comprehensive list of units and problem areas for agricultural production;
10. Schedule of activities including summer program and SOE;
11. Adult program in vocational agriculture;
12. Evaluation policy;
13. Summary sheets of units and problem areas;
14. Appendix containing booklets used in community assessment and a set of examples of a unit plan.

The planning guide was reviewed by a screening committee. The committee consisted of 21 experienced (more than five years) Pennsylvania vocational agricultural production teachers who serve as cooperating teachers for the student teacher program. The committee met in a workshop which was held at The Pennsylvania State University, Department of Agricultural and Extension Education.

During this workshop, the group was introduced to the concept of the planning guide and a review of operational terms was presented. Each individual was given a packet containing a list of all the units and problem areas to be incorporated in the planning guide. The group reviewed the planning guide in relation to the format and content of the unit and problem areas. Revisions were made in compliance with the group's suggestions.

The planning guide was introduced to Pennsylvania beginning teachers (0-3 years of agricultural teaching experience) during a program planning workshop. The beginning teachers were introduced to the concept of the planning guide and presented with a review of operational definitions. Each beginning teacher was given a draft of the planning guide. The beginning teachers were guided through the planning process and given the opportunity to develop a unit plan based on the community needs of their respective programs. Final revisions were then made to the planning guide.

Once rewritten, the planning guide was published by The Pennsylvania State University, Department of Agricultural and Extension Education.

# CHAPTER II

# LITERATURE REVIEW

## Basis for Curricular Revision

Historically, educators have tried to improve the quality of education rather than change educational processes. This change must begin with the improvement of teaching and supportive instructal materials. Frymier and Hawn (1970), in describing the concept of educational change, commented:

> Curriculum improvement is a linear concept; it involves modification of curriculum over time. Changing anything for the sake of change is pointless, and changing education for its own sake is costly, frustrating and senseless in every way. If one is concerned about improvements in curriculum, he will inevitably be working to bring about change. (p. 14)

Crunkilton and Finch (1979), in addressing the need for improving curriculum, noted that the Smith Hughes Act of 1917 and more recent legislation has supported the concept of providing students with a broad experiential base in preparation of employment.

The course of study today must address the needs of students. In vocational agriculture, developing a complete course of study takes time, and time is at a premium for the vocational agriculture teacher. The demands on education today are great and a major concern, both in Pennsylvania and throughout the nation. Recent research suggested that school districts are loosely coupled systems composed of subsystems operating somewhat autonomously (Deal and Cellotti, 1980). This general theory is supported by specific findings indicating that teachers are protective of their autonomy in curricular matters and strongly resist attempts by district supervisors to control what they do day by day in the classroom (Goodlad, 1977). These and other major curriculum problems have been addressed time after time. Friese and Williams (1966) stated, "curriculum means a series of integrated courses, and a course of study in a single subject in a smaller way, can be thought of similarly."

The course of study is a guide which can be used over a given period of time. Personnel involved in the Tennessee Manpower Development Training research concluded that "a course of study should include a succession of activities, experiences or information through which learning occurs. Through these the instructor may expand the choices offered students." This philosophy or theme was the basis for the publication, Tennessee Manpower Development Training Guide for Building a Course of Study (n.d.).

Kindred et al. (1976) believed curriculum development focuses primarily on content and areas related to it. It represents a higher level of generalization than instructional development, and always precedes it. Crunkilton and Finch (1979) found that, "the basic characteristics of vocational curriculum included orientation, justification, in-school success standards, out-of-school success standards, school community relationships, responsiveness, logistics and expenses." They indicated the key to vocational and technical curriculum is relevance. The extent to which a curriculum assists students to enter and succeed in the work world spells success.

## Curricular Revisions in Agriculture

Now that a base has been established for the importance of a course of study, what about its relevance to the state of Pennsylvania? Many educators and institutions have developed aids which permit the instructor to use an outline form of a specific topic in vocational agriculture. Examples of these outlines are: (a) California Agriculture Production Curriculum Guidelines (1981); (b) Oklahoma Vocational Agriculture Units of Instruction (1981); and (c) Ohio Basic Core Curriculum for Agriculture Production (1981).

These are tools to be used by the instructor serving as a guide to a particular subject. They included teaching strategies, objectives, tests, and student activity sheets and are successful if used in the area in which they were designed; in other words, if the materials are community specific. Stinson (1978) identified the importance of a community specific course of study and designed a course of study planning model to develop community specific curriculum. The purpose of the model is to lead school program planners through a series of sequential steps from determining job opportunities, to development of program of study designed to prepare vocational agriculture graduates appropriately for jobs that will be available to them.

These are tools to aid the instructor. The question is, "How does the instructor bring together these areas to develop an effective program of vocational agriculture?" McCracken and Bartsch (1976) developed a form to be used in developing local courses of study. They stated:

> The major purpose of this guide is for group and individualized instruction specifically for vocational agriculture teachers in preservice and inservice training. The practical application of this guide involves the teacher or potential teacher developing a section of a local course of study (1976). It is not however, a systematic approach which is the basis of the course of study planning guide.

Rubin (1977), in reviewing curriculum theory, stated:

> Present viewpoints are varied. Some (Kozel et al. 1975) have concluded that the traditional disciplines produce a curriculum that is largely irrelevant to the real needs

> of students. At the same time the United States Office of Education prompted a number of projects designed to advance career education, reviewed interest developed in the areas of affective and humanistic education, and community-based learning--where informal and formal education are brought into closer correspondence--began to attract increasing attention.

A sound course of study is essential, and developing a system to make that course of study come about is also essential. Hugnes and Ubben (1980) stated, "Ultimately the curriculum should provide learning opportunities to match cultural, vocational, and career goals as well as other individual needs."

Providing such a system for vocational agriculture teachers and implementing that system takes organization. In order for such a planning system to be successful, the vocational agriculture teacher needs to have information to reflect the department goals and objectives. If we provide a tool for use by the vocational agriculture teacher for developing courses of study, positive results will follow. Glatthorn (1981) noted, "A flexible approach to curriculum development begins with staff development, uses curriculum mapping, and results in a loose-leaf notebook useful to teachers."

# CHAPTER III

# PURPOSE OF THE PROJECT

The major purpose of the project was to develop a new systematic approach to be used by production vocational agriculture teachers in developing courses of study. A secondary purpose of the project was to evaluate the adequacy of the new approach by experienced production vocational agriculture teachers. The planning guide is intended to help vocational agriculture teachers develop a complete comprehensive course of study in production agriculture.

## Procedure and Results

The major activity of this project involved the writing of a vocational agriculture course of study planning guide. The planning guide was typed and included the following component parts:

1. Standards for exemplary programs in vocational agriculture;
2. School and department philosophy;
3. State, school and departmental goals;
4. Advisory committee members;
5. Community description, characteristics and resources;
6. Guidelines for using the format pages;
7. Format pages for unit;
8. Format pages for problem areas;
9. Removable gum labels, printed with a comprehensive list of units and problem areas for agricultural production;
10. Schedule of activities, including summer program and supervised occupational experience program;

11. Adult program in vocational agriculture;
12. Evaluation policy;
13. Summary sheets of units and problem areas;
14. Appendix containing booklets used in community assessment and a set of examples of unit plan.

A screening committee of 21 vocational agriculture teachers was selected to review and make suggestions on the content of the planning guide. The committee consisted of experienced Pennsylvania agricultural production teachers serving as cooperating teachers for the Department of Agricultural and Extension Education student teaching centers. The committee met at a workshop which was held at a central location.

During the workshop the group was introduced to the concept of the planning guide and began its review of the contents. During this review the large group separated into smaller groups consisting of four or five people. Four groups were given a packet containing a list of selected units and problem areas and instructed to look over the units and problem areas and make suggested changes they felt should be made on the list.

One group was given packets containing the table of contents. They reviewed the table of contents and listed changes they believed should be made to the planning guide. Each part of the planning guide was reviewed and the changes were implemented into the draft form used for testing with the beginning teachers. Parts from the table of contents listed below outline the changes suggested by the screening committee.

1. Guidelines—should include a step-by-step explanation and instructions to all component parts of the planning guide.
2. Add a section where advisory committee members may be listed.

3. Community needs assessment--describe and include information on a complete needs assessment for the program.
4. Removable gum labels--identify problem areas with unit titles to keep uniformity in reading through the format page.
5. Include the summer program and supervised occupational experience program. Develop planning pages for these areas.
6. Include a section for the adult education program and provide these pages to schedule major activities for the adult program.
7. Include a section for the department's evaluation policy.

The following changes were suggested for the units and problem areas:

1. List of units and problem areas--changes included minor terminology corrections.
2. Add to list of units and problem areas--forestry, beekeeping, tobacco, and mushrooms.

The screening committee made very sound suggestions and the results are contained in the course of study planning guide (Appendix B).

The planning guide, in draft form, was then introduced for initial testing to beginning Pennsylvania vocational agriculture teachers during a program planning workshop sponsored by The Pennsylvania State University. The beginning teachers were introduced to the concept of the planning guide and the component parts of the planning guide. The beginning teachers were instructed to bring with them a course of study from their local schools. Using this information and the planning guide, the beginning teachers developed a unit plan for first-year production agriculture students.

The beginning teachers were asked to evaluate the workshop and initial draft of the planning guide. The evaluation results presented in Table 1 indicate that the 19 beginning teachers of agriculture thought both the course of study planning guide and the guidelines for using the guide were both valuable and suitable to meet their needs, having rated both areas above 4 on a 0-5 scale.

## Recommendations

1. The course of study planning guide should be incorporated into the preservice training program for undergraduates and beginning teachers inservice program.
2. The course of study planning guide should be used by all vocational agriculture production programs for mapping of a four-year curriculum.
3. The course of study planning guide should be developed for other program areas in vocational agriculture (e.g., horticulture).
4. The course of study planning guide should be used in conjunction with the microcomputer.
5. The course of study planning guide should continue to be tested in the field and periodically revised.

Table 1. Beginning Vocational Agriculture Teachers' Perceptions of The Course of Study Planning Guide.

| Criterion Statement | Number | Mean | Standard Deviation |
|---|---|---|---|
| 1. Organization of Program Planning Guide--Susan Cromwell | | | |
| A. Presentation | 19 | 4.21 | .63 |
| B. Value of information covered | 19 | 4.37 | .68 |
| C. Suitability of info to your needs | 19 | 4.21 | .92 |
| Mean | 19 | 4.26 | .48 |
| 2. Guidelines for Using Guide--Susan Cromwell | | | |
| A. Presentation | 19 | 4.05 | .71 |
| B. Value of information covered | 19 | 4.42 | .69 |
| C. Suitability of info to your needs | 19 | 4.21 | .98 |
| Mean | 19 | 4.23 | .65 |
| 3. Developing a Course of Study--Group Session | | | |
| A. Helpfulness of instructor | 19 | 3.79 | .79 |
| B. Value of hands-on session | 19 | 3.63 | .90 |
| C. Suitability of info to your needs | 19 | 3.74 | .87 |
| Mean | 19 | 3.72 | .77 |
| 4. Teacher Comments on Guide | | | |
| A. Value of session | 19 | 4.11 | .88 |
| B. Suitability of info to your needs | 19 | 4.05 | .98 |
| Mean | 19 | 4.08 | .90 |

## Recommendations

1. The course of study planning guide should be incorporated into the preservice training program for undergraduates and beginning teachers inservice program.
2. The course of study planning guide should be used by all vocational agriculture production programs for mapping of a four-year curriculum.
3. The course of study planning guide should also be developed for other program areas in vocational agriculture (e.g., horticulture).
4. The course of study planning guide should be used in conjunction with the microcomputer.
5. The course of study planning guide should continue to be tested in the field and continually revised.

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# APPENDIX A

## EVALUATION RESULTS FOR THE COURSE OF STUDY PLANNING SEMINAR FOR BEGINNING VOCATIONAL AGRICULTURE TEACHERS

## APPENDIX A

Evaluation Results for the Course of Study Planning Seminar for Beginning Vocational Agriculture Teachers.

| Criterion Statement | Number | Mean | Standard Deviation |
|---|---|---|---|
| 1. Introduction--Hobart Harmon | | | |
| A. Presentation | 18 | 3.78 | .81 |
| B. Value of information covered | 18 | 3.94 | .73 |
| C. Suitability of info to your needs | 18 | 3.83 | .79 |
| Section Mean | 18 | 3.85 | .68 |
| 2. Why Program Planning?--Hobart Harmon | | | |
| A. Presentation | 18 | 3.94 | .64 |
| B. Value of information covered | 18 | 4.00 | .77 |
| C. Suitability of info to your needs | 18 | 3.89 | .83 |
| Section Mean | 18 | 3.94 | .69 |
| 3. Organization of Program Planning Guide--Susan Cromwell | | | |
| A. Presentation | 19 | 4.21 | .63 |
| B. Value of information covered | 19 | 4.37 | .68 |
| C. Suitability of info to your needs | 19 | 4.21 | .92 |
| Section Mean | 19 | 4.26 | .48 |
| 4. Guidelines for Using Guide--Susan Cromwell | | | |
| A. Presentation | 19 | 4.05 | .71 |
| B. Value of information covered | 19 | 4.42 | .69 |
| C. Suitability of info to your needs | 19 | 4.21 | .98 |
| Section Mean | 19 | 4.23 | .65 |
| 5. Developing a Course of Study--Group Session | | | |
| A. Helpfulness of instructor | 19 | 3.79 | .79 |
| B. Value of hands-on session | 19 | 3.63 | .90 |
| C. Suitability of info to your needs | 19 | 3.74 | .87 |
| Section Mean | 19 | 3.72 | .77 |
| 6. Teacher Comments on Guide | | | |
| A. Value of session | 19 | 4.11 | .88 |
| B. Suitability of info to your needs | 19 | 4.05 | .97 |
| Section Mean | 19 | 4.08 | .90 |

## APPENDIX A

Continued

| Criterion Statement | Number | Mean | Standard Deviation |
|---|---|---|---|
| 7. Seminar Summary--Hobart Harmon | | | |
| A. Presentation | 19 | 3.95 | .62 |
| B. Value of information covered | 19 | 3.90 | .74 |
| C. Suitability of info to your needs | 19 | 3.90 | .81 |
| Section Mean | 19 | 3.91 | .67 |
| 8. Overall Summary | | | |
| A. Presentation | 19 | 3.97 | .51 |
| B. Value of information | 19 | 4.07 | .61 |
| C. Suitability of information | 19 | 4.00 | .78 |
| Section Mean | 19 | 4.01 | .59 |

Scale:
1 = Poor
2 = Below Average
3 = Average
4 = Above Average
5 = Excellent

# APPENDIX B

# COURSE OF STUDY PLANNING GUIDE

# COURSE OF STUDY

# PLANNING GUIDE

Department of Agricultural and Extension Education
The Pennsylvania State University
University Park, PA 16802

# COURSE OF STUDY PLANNING GUIDE

Developed by

Susan E. Cromwell
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The Pennsylvania State University
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1984

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  4. Community Resource Workbook and Sample Community Description
  5. Unit Titles and Problem Areas Labels
  6. Schedule of Activities Labels
  7. Student Evaluation Policy
  8. 9th Grade Unit and Problem Area Plan

# ii. Acknowledgement

The purpose of this publication is to aid vocational agriculture teachers in planning their courses of study. Planning the course of study may be a cumbersome task. This program planning guide, in loose-leaf notebook form, provides a convenient, flexible and practical aid to help the teacher of vocational agriculture plan a course of study.

The manual is based on a model course of study developed by Dr. Robert Martin, Assistant Professor in the Department of Agricultural and Extension Education, Iowa State University. His assistance and advice are greatly appreciated.

Dr. William Williams, Associate Professor in the Department of Agricultural and Extension Education at The Pennsylvania State University, provided guidance, ideas, advice, and technical assistance that aided in the completion of this planning guide.

A screening committee of 21 teachers of vocational agriculture reviewed a draft of the manuscript and contributed ideas for improving the guide. These teachers include Doyle Paul, Anthony Mikloiche, Dr. Robert Herr, John Myers, Harold Cameron, George Miller, William Mackereth, David Teets, James Faust, Kay Kring, Chester Raught, Ronald Frederick, George Hamilton, Timothy Weller, Dr. Kenneth Rhodes, Robert Leib, Dr. Randall Campbell, John Ishler, Harold Berkheiser, Robert Fisher, and Barry Oswald.

In addition, helpful suggestions and assistance were provided by Dr. Dennis Scanlon and Hobart L. Harmon, Assistant Professor and Graduate Assistant, respectively, in the Department of Agricultural and Extension Education at The Pennsylvania State University.

## iii. Foreword

Planning a course of study is a necessary task. Although some teachers place this task near the bottom of their list of priorities, most educators recognize the importance of this area of the curriculum-development process.

This planning guide has been developed because of the many similarities among production agriculture programs in Pennsylvania, and because there is a need for a guide to assist in developing courses of study in vocational agriculture. This guide recognizes that a course of study should fit local community needs, and is designed for a "community-specific" program of vocational agriculture.

Each teacher in a vocational agriculture department should consider working with this planning guide. Not only will this guide help you in developing a sound course of study, but it will be useful in keeping your course of study up to date. The planning guide lends itself to change each year, if needed, as district, community, and department needs change.

The course of study planning guide is intended to be used in conjunction with Steve Miller's "Monthly Planning Manual for Beginning Teachers" and the "Long-Range Planning Guide" published by the Department of Agricultural and Extension Education at The Pennsylvania State University. In addition, this planning guide is designed to be computer compatible, thus allowing future changes to be electronically updated as needed.

## iv. Operational Definitions

Production Agriculture. Comprehensive study of agriculture. Parts include crop and animal science, along with the necessary agricultural mechanics. The area also includes leadership development, which implements both the Future Farmers of America organization and Supervised Occupational Experience.

Curriculum. A term used to describe all courses and all other educational activities organized by the school for the benefit of an individual student. Usually the courses and activities lead to a certain goal. The goal may be a degree, certificate, etc. The curriculum ultimately should provide learning opportunities to match cultural, vocational, and career goals as well as other individual needs.

Course of Study. An orderly sequence of investigations which lead students to acquire knowledge and develop understandings and insights, attitudes, values, and skills which prepare them to reach an educational or occupational goal. It is an outline of planned classroom or laboratory activities, broken down into units, and further broken down into problem areas.

Program. An instructional area which represents a number of occupational titles. Examples: agricultural production, agricultural mechanics, agricultural supplies and services, horticulture, agricultural resources, forestry.

Course. A combination of related units to be taught normally in one school year (36 weeks) or one semester (18 weeks). However, a minicourse could be six or nine weeks in length, depending upon local needs. Example: animal science.

Unit of Instruction. Refers to one segment of a course to present subject matter and competencies organized around one enterprise. The unit of instruction should be taught as a whole and is composed of important problem areas, which should be taught sequentially within each unit.

Problem Area. A term used to describe the major divisions of a unit of instruction. The problem area is a major consideration in the unit under study. Each problem area in a unit is aimed at helping students acquire knowledge, skills, and attitudes which lead to the achievement of unit objectives. Problem areas are organized and sequenced to help the student develop competencies in a logical and orderly manner.

Lesson. Refers to a major division or part of the problem area usually fitting the time frame of one class meeting. The lesson objective is the focus of the lesson and therefore represents the lesson title although there may be several objectives in the lesson.

# I. GUIDELINES FOR USING COURSE OF STUDY PLANNING GUIDE

# I. GUIDELINES FOR USING COURSE OF STUDY PLANNING GUIDE

A course of study is a "road map" that specifies where the learner is headed. It is a planning document that helps a teacher to develop an orderly sequence of instruction. A course of study helps assure that students acquire knowledge and develop understandings, insights, attitudes, appreciations, values, skills, and behavior patterns that help them reach educational and occupational goals.

In production agriculture, a course of study must be "community-specific" if it is to be useful. This planning guide is just that--a guide to developing a course of study to meet local needs and conditions. However, there are a number of ways in which programs in production agriculture are alike. This handbook was developed because of these similarities and because there is a need for assistance in planning courses of study in vocational agriculture.

The course of study planning guide is intended to help the vocational agriculture teacher plan and structure a 4-year vocational agriculture program. The guide is to be used to initiate, update, and revise occupationally oriented agricultural education programs designed to prepare students for the world of work.

Because of the importance of farming in many school-service areas, the animal, plant, and soil sciences relative to agriculture production will continue to receive major emphasis in most Pennsylvania courses of study. However the farm-related instructional areas of agricultural mechanics, agricultural supplies, agricultural products, forestry, and horticulture will be included in the future as specialized courses of study.

A course of study, regardless of its major agricultural subject-matter emphasis, should provide for orientation in and exploration of all areas of agriculture. Example unit and problem areas of a course of study in vocational agriculture are listed in Appendix 5. Selection of units and problem areas is the first step to developing a course of study that meets community needs. The teacher then must develop a lesson plan to "individualize" the subject matter to fit the student or class situation.

If you follow the guidelines found in this planning guide in a systematic way, your end product will be a 4-year agricultural program which is "community-specific." This "end product" will be a valuable time saver and easily accessible. Once the initial phase of planning is complete, the guide then may be used to revise and update the course of study annually.

Each section of this planning guide has a step by step set of instructions for that particular section. Each component part is outlined prior to each section.

## II. STANDARDS FOR EXEMPLARY PROGRAMS IN VOCATIONAL AGRICULTURE

# BUREAU OF VOCATIONAL EDUCATION'S
# EXEMPLARY PROGRAM
# CRITERIA
# FOR
# AGRICULTURE EDUCATION

Pennsylvania Department of Education October 6, 1983

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF EDUCATION
333 MARKET STREET
P. O. BOX 911
HARRISBURG, PA 17108

October 6, 1983

Dear Colleague:

Attached are criteria for the Bureau of Vocational Education's Exemplary Program Project "In Search of Excellence."

I believe this project has a lot of potential for further vocational education program development and improvement. There are many exemplary programs being conducted for students in Pennsylvania schools. I think it our collective professional responsibility to identify them and replicate the methods and materials, insofar as possible, to give other students and teachers the means to continue program development and improvement.

I hope you will take time from your busy schedule to review the criteria and discuss it with your appropriate staff. Please give participation in this project consideration.

Sincerely,

Jerry C. Olson
State Director of Vocational Education

JCO/VR/jg8366

## Introduction

The Bureau of Vocational Education's Exemplary Program Project, "In Search of Excellence" is designed to identify outstanding vocational education programs in Pennsylvania schools and attempt to adopt/adapt the successful practices that make them exemplary.

The following criteria are presented by the Pennsylvania Department of Education for use by teachers and administrators to conduct a self assessment of a vocational education program. The criteria set high standards to be used to evaluate curriculum, facilities and instruction. Administrators and teachers of vocational education programs which meet or exceed these standards should take satisfaction in knowing that students are receiving superior education and training.

If after conducting a thorough and satisfactory self assessment using the criteria checklist, the teacher and administrator wish to share their practices with others, they are invited to complete the application form attached to the criteria and send it along with a copy of the completed checklist to the indicated address.

We hope these criteria are helpful and encourage you to participate in this effort to improve vocational education in Pennsylvania.

VLR/mh8311

## Exemplary Criteria for Vocational Agriculture Education

| Standard 1 - Purpose | Yes | No | But | Comment |
|---|---|---|---|---|
| 1.1 Statement of philosophy for vocational education in agriculture/agribusiness is in harmony with the philosophy statement for the total school, is approved by school board and is on file with the administration and in the department. | | | | |

| Standard 2 - Administration | Yes | No | But | Comment |
|---|---|---|---|---|
| 2.1 The department's annual and five-year program plans, including goals, objectives, and activities, are budgeted and approved with the administration, implemented and on file in this department. | | | | |
| 2.2 The instructional program is reviewed by local advisory committee annually and modified in light of local occupational needs. A comprehensive review is completed at least every three years. | | | | |
| 2.3 An agriculture/agribusiness advisory council or committee is formed and meets at least twice a year to help determine program needs and to assist in promotion and evaluation of the program. | | | | |
| 2.4 The advisory council functions under written guidelines which specify the length of a member's term, responsibilities and operational procedures. | | | | |
| 2.5 Minutes of the advisory council meetings are recorded and are on file in the department. | | | | |
| 2.6 Students participating in the supervised occupational experience program are employed in accordance with school policy and all applicable federal and state labor laws. | | | | |
| 2.7 Students receive (school) credit for all supervised occupational experience programs whether completed within the school lab, at home or at place of employment. | | | | |

| Standard 2 - Administration (Cont.) | Yes | No | But | Comment |
|---|---|---|---|---|
| 2.8 Each instructor responsible for supervision of occupational experience programs maintains time of visit and subject of visit records to determine student progress and to assist in placement and reports monthly to school principal. | | | | |
| 2.9 The classroom and laboratory are maintained in an orderly, safe, and attractive condition. | | | | |
| 2.10 A student file is maintained for all students and contains current information on occupational objectives, supervised occupational experience programs, FFA activities, completed course work and other necessary subjects. | | | | |
| 2.11 Through an effective public relations program the faculty, students, parents, employers, advisory council members and community are informed about the educational objectives, major activities and accomplishments of the agriculture/agribusiness program. This effort will be the responsibility of the instructor. | | | | |
| 2.12 The agriculture/agribusiness program is an integral part of the local district plan for vocational education. | | | | |
| 2.13 Representatives of local, area and state education agencies participate in planning the program of instruction and are kept informed of the progress made. | | | | |
| 2.14 Job descriptions are on file for all department staff members. | | | | |

| Standard 2 - Administration (Cont.) | Yes | No | But | Comment |
|---|---|---|---|---|
| 2.15 The instructor, local administrator(s) and appropriate state education agency staff member(s) meet at least once every five (5) years to formally examine and evaluate the agriculture/agribusiness program. Results obtained from program evaluations are used to promote, develop and improve the instructional program. | | | | |
| 2.16 Periodic reports of activities and accomplishments are submitted to the local administration and are in department files. | | | | |
| 2.17 Instructors are employed on eleven-month contracts to provide for education and supervision of students during summer months. | | | | |
| 2.18 The maximum assignment per instructor is 30 hours of classroom instructional time, five hours of student advising and 5 hours of supervision and preparation per week. | | | | |
| 2.19 The student-teacher ratio in the classroom is 20 to 1, with 15 students to 1 instructor in the laboratory class, and 8 to 1 in logging and sawmilling laboratories. | | | | |
| 2.20 Students enrolled in a specialized program of agriculture/agribusiness complete a one or two-year basic vocational agriculture program. | | | | |
| 2.21 A systematic plan is utilized to select, develop and evaluate learning stations that assist students in obtaining desired occupational competencies. | | | | |
| 2.22 Equipment maintenance and service records are on file in the department office. | | | | |

| Standard 2 - Administration (Cont.) | Yes | No | But | Comment |
|---|---|---|---|---|
| 2.23 The department has access to adequate secretarial services. | | | | |

| Standard 3 - Learning Resources | Yes | No | But | Comment |
|---|---|---|---|---|
| 3.1 Technically accurate instructional materials and textbooks are utilized in the instructional program. | | | | |
| 3.2 Students have access to current trade journals and other agricultural publications. | | | | |
| 3.3 The school library contains recent books and audiovisual material to aid in student research. | | | | |
| 3.4 Community resources, facilities, business and industries have been identified and are utilized to enrich the learning experiences of the students. | | | | |

| Standard 4 - Finances | Yes | No | But | Comment |
|---|---|---|---|---|
| 4.1 The instructional program is supported by an annual board-approved budget that accommodates program needs and the number of students enrolled. Included are, but not limited to:<br>a. Staff compensation | | | | |
| b. Facility operation and maintenance | | | | |
| c. Equipment and material purchase and replacement | | | | |
| d. Consumable supplies | | | | |
| e. Teacher travel and per diem | | | | |
| f. Transportation for field trips | | | | |
| g. In-service education | | | | |
| 4.2 Administration and/or board-approved policies are provided for the receipt and disbursement of funds. | | | | |

| Standard 5 - Student Services | Yes | No | But | Comment |
|---|---|---|---|---|
| 5.1 Agriculture/agribusiness instructor visits prospective students and their parents and provides copies of the program objectives prior to their enrollment in the program. | | | | |
| 5.2 The agriculture/agribusiness instructor advises each student regular basis and assists those with special educational needs in obtaining additional assistance from qualified school personnel. | | | | |
| 5.3 Provisions are made to accommodate and provide for students with handicaps. | | | | |
| 5.4 The instructor, in cooperation with the school counselor, assists in the placement and follow-up of students. A file of placement and employment records is maintained. | | | | |
| 5.5 One and five-year follow-up surveys of former students are made to determine their current occupational or educational status. | | | | |
| 5.6 School-approved transportation is provided to students for all planned off-campus educational activities. (Student driver absolutely prohibited.) | | | | |

| Standard 6 - Instruction | Yes | No | But | Comment |
|---|---|---|---|---|
| 6.1 The instructional program contains a minimum of 60 percent of classroom instruction with the balance composed of organized laboratory work; field trips; and supervised occupational experience to prepare students for employment or advanced educational programs. | | | | |
| 6.2 Validated competencies needed by students for entry and advancement in employment are utilized in developing objectives for the instructional program. | | | | |
| 6.3 Safety is taught and documented in advance of any shop or laboratory work. | | | | |
| 6.4 Lesson plans are developed that clearly state instructional objectives, activities and resources to be utilized during instruction and include leadership development activities. | | | | |
| 6.5 The instructional program is articulated with other local secondary, postsecondary and four-year programs of education in agriculture/agribusiness. | | | | |
| 6.6 Community resources, facilities and industries are identified annually and listed as part of the instructional plan. | | | | |
| 6.7 Each student engaged in a supervised occupational experience program maintains accurate and up-to-date records including financial transactions and competencies acquired during the program as well as financial summaries and analysis. | | | | |

| Standard 6 - Instruction (Cont.) | Yes | No | But | Comment |
|---|---|---|---|---|
| 6.8 Supervision of students engaged in cooperative occupational experience programs is accomplished by both the instructor and the cooperating employer. Supervisory schedule is planned, including initial content, agreement and implementation phases. | | | | |
| 6.9 All students are engaged in supervised occupational experience programs that meet minimum standards, are related to their occupational objectives and are appropriate in light of their ability and place of residence. | | | | |

| Standard 7 - Equipment and Facilities | Yes | No | But | Comment |
|---|---|---|---|---|
| 7.1 Facilities and equipment meet all current state and federal safety regulations. | | | | |
| 7.2 Facilities and equipment are arranged with consideration given to effective teaching, class control, safety and economy. | | | | |
| 7.3 The classroom and laboratory are maintained in an orderly, safe, and attractive condition. | | | | |
| 7.4 A land laboratory, convenient to the school, is provided and utilized in the instructional program. | | | | |
| 7.5 Supplies and equipment are stored in a systematic manner and an up-to-date inventory list is available. | | | | |
| 7.6 Supplies such as paint, fuel and pesticides are stored in approved locations in approved containers. | | | | |
| 7.7 The classrooms, shops and laboratory stations are adequate for the number of students enrolled. | | | | |
| 7.8 The equipment replicates that which is currently found in the occupations for which training is provided. | | | | |

| Standard 8 - Instructional Staff | Yes | No | But | Comment |
|---|---|---|---|---|
| 8.1 The instructor possesses the personal, technical, professional and occupational competencies necessary to prepare students for entry level employment or for advanced educational programs. | | | | |
| 8.2 The instructor is sensitive to the needs of students and can recognize and make provisions for individual student differences within the instructional program. | | | | |
| 8.3 The instructors establish and maintain cooperative working relations with leaders in related industries, organizations and agencies. | | | | |
| 8.4 The instructor is actively involved in professional teacher organizations which are supported by agricultural educators in the state is engaged in continuing in-service professional development programs and attends the annual in-service training program for Vocational Agriculture instructors. | | | | |
| 8.5 The agriculture/agribusiness instructor or school placement officer visits prospective employers at least once per quarter for each major agribusiness to keep up-to-date on industry trends. | | | | |
| 8.6 Agriculture/agribusiness instructors have at least one class preparation period and one period for student supervision per instructional day. | | | | |

| Standard 9 - Cooperative Education | Yes | No | But | Comment |
|---|---|---|---|---|
| 9.1 Before each student is placed, the instructor, student and employer cooperatively develop a formal training agreement and training plan which include essential competencies and experiences to be acquired by the student during the program. | | | | |

| Standard 10 - Leadership Training | Yes | No | But | Comment |
|---|---|---|---|---|
| 10.1 Leadership development activities are an integral part of the instructional program. | | | | |
| 10.2 All secondary agriculture/agribusiness students should be encouraged to join and participate in the Future Farmers of America (FFA). | | | | |
| 10.3 The local FFA Chapter involves members in activities at the district, state and national levels. | | | | |
| 10.4 The FFA Chapter provides for the specialized needs and interests of all members and is included in the instructional program. | | | | |

## STANDARDS SPECIFIC TO AGRICULTURAL SUPPLIES AND SERVICES
## SECONDARY

| | Yes | No | But | Comment |
|---|---|---|---|---|
| 1. The instructional program in agricultural supplies and services includes a two-year program with a minimum of 240 hours of class time per year. | | | | |
| 2. The program allocates 60% of the instructional time for supervised classroom activities and 40% for laboratory experiences. | | | | |
| 3. A minimum of one on-site supervision visit every two months is made by the instructor to each cooperating employer. | | | | |
| 4. Supervised occupational experience involves a minimum of 25% of the total time allocated for the agricultural supplies and services program. | | | | |
| 5. Wages are paid to the student during an on-the-job training period. | | | | |
| 6. A full-time instructor supervises a maximum of 30 students while they are engaged in an occupational experience program. | | | | |
| 7. The supervised occupational experience program is more than six months in duration each year. It is a sufficient number of hours to enable the student to become proficient in essential competencies. | | | | |
| 8. Members of student organizations are affiliated with their respective professional and occupational associations. | | | | |

| | Yes | No | But | Comment |
|---|---|---|---|---|
| 9. Students planning to enroll in the agricultural supplies and services curriculum at the secondary level complete a one or two-year basic vocational agricultural program. | | | | |
| 10. Working relationships exist between the agricultural supplies and services faculty and the student services personnel in the school system. | | | | |
| 11. The instructor is certified and possesses a minimum of 1,500 hours of meaningful job employment in the agricultural supplies and services area. | | | | |
| 12. The instructor participates in a minimum of four weeks of professional improvement activities every three years. | | | | |

|  | Yes | No | But | Comment |
|---|---|---|---|---|
| G. Forest Technology (Ecology, Protection and Silviculture) |  |  |  |  |
| H. Other Forestry and Natural Resources Specialties |  |  |  |  |
| 5. Community resources, facilities, business and industry have been identified and are utilized in an attempt to enrich the learning experiences of the students. |  |  |  |  |
| 6. Students will keep accurate records of all practicum experiences in the *Pennsylvania School Directed Laboratory Record of Skills and Tasks Record Book* (minimum 300 hours per year). |  |  |  |  |
| 7. Students are encouraged to have other supervised occupational experience programs when permitted by child labor laws. |  |  |  |  |
| 8. The instructor/instructors of forestry and natural resources programs serve as advisor to the vocational student organization (FFA) that provides leadership development for students enrolled in the program. |  |  |  |  |
| 9. The vocational student organization (FFA) is an intricate part of the forestry and natural resources curriculum. |  |  |  |  |
| 10. The following forestry and natrual resources facilities, conforming to State standards, are used in the instructional program.<br>A. Shop/Laboratory<br>(1) Forestry - 3500 to 4000 square feet |  |  |  |  |

| | Yes | No | But | Comment |
|---|---|---|---|---|
| (2) Natural Resources - 2000 to 2400 square feet | | | | |
| B. Instructor's Office | | | | |
| C. Outdoor Land Laboratory (30 acres minimum) Laboratory includes the following:<br>(1) Outdoor Classroom | | | | |
| (2) Nature Trails | | | | |
| (3) Wildlife Area | | | | |
| (4) Pond and Welands Area | | | | |
| (5) Nursery - both forestry and natural resources | | | | |
| (6) Demonstration Forest | | | | |
| (7) Outdoor Recreation Area | | | | |
| (8) Weather and Air Monitoring Station | | | | |
| D. Classroom - a minimum of 30 square feet of space is provided for each student in the classroom. | | | | |
| E. Appropriate restrooms, showers and locker rooms. | | | | |
| 11. Equipment is commensurate with forestry and natural resources industry standards and courses occupational objectives. | | | | |

## STANDARDS SPECIFIC TO FORESTRY AND NATURAL RESOURCES

| | Yes | No | But | Comment |
|---|---|---|---|---|
| 1. The complete program in forestry and natural resources includes: a minimum of 10 contact hours per week for three years. | | | | |
| 2. Instruction is provided in technical forestry and natural resources, leadership development (FFA), recordkeeping, business management, forestry mechanics, directed laboratory experiences, supervised occupational experience and occupational guidance. | | | | |
| 3. Emphasis is placed upon directed laboratory experiences with 60% of the time devoted to hands-on experiences in the school shop and outdoor laboratory. | | | | |
| 4. In a three year secondary school program, students complete one year of basic instruction in forestry and natural resources, with the opportunity to specialize in technical forestry and natural resources in the second and third years. The areas included:<br>A. Forest Resource Mechanics | | | | |
| B. Forest Measurement and Land Surveying | | | | |
| C. Wildlife and Fishery Management | | | | |
| D. Outdoor Recreation | | | | |
| E. Soil, Water and Air Management | | | | |
| F. Nursery Production and Management | | | | |

|  | Yes | No | But | Comment |
|---|---|---|---|---|
| 12. An adequate forestry and natural resources library is maintained and kept current. |  |  |  |  |
| 13. Adequate forestry and natural resources audio-visual aids are maintained and kept current. |  |  |  |  |
| 14. Instructors are certified teachers of agriculture education and have earned a minimum of 18 semester credits in forestry or natural resources. In addition, instructors have been employed 12 months or 2000 hours in the forestry or natural resources business or industry. |  |  |  |  |
| 15. The student-teacher ratio in the classroom is 20 to 1, with 15 students to 1 instructor in the laboratory class, and 8 to 1 in logging and sawmilling laboratories. |  |  |  |  |

# STANDARDS SPECIFIC TO ORNAMENTAL HORTICULTURE
## SECONDARY

| | Yes | No | But | Comment |
|---|---|---|---|---|
| In addition to the 10 Standards common to all agriculture/agribusiness programs, the following criteria for Ornamental Horticulture are to be met: | | | | |
| 1. The complete program in ornamental horticulture includes: a minimum of 10 contact hours per week for three years. | | | | |
| 2. Instruction is provided in technical horticulture, recordkeeping, business management, marketing, horticulture mechanics, leadership development (FFA), supervised occupational experience, laboratory experience and occupational guidance. | | | | |
| 3. In a three-year secondary school program, students will complete one year of basic instruction in horticulture, with the opportunity to specialize in technical horticulture in the second and third years. That is:<br>A. Landscape construction and maintenance | | | | |
| B. Greenhouse production and management | | | | |
| C. Floral merchandising and design | | | | |
| D. Nursery production and management | | | | |
| E. Garden Center management and sales | | | | |
| F. Turf grass management | | | | |
| G. Other horticulture specialties | | | | |

|  | Yes | No | But | Comment |
|---|---|---|---|---|
| 4. Community resources, facilities, business and industries have been identified and are utilized in an attempt to enrich the learning experiences of the students. |  |  |  |  |
| 5. Students will keep accurate records of all practium experiences in the Pennsylvania Practium Skills Recordbook (minimum 180 hours). In addition, students will plan and implement a supervised occupational experience program which includes a minimum of 200 hours per year. (other than classroom) |  |  |  |  |
| 6. The instructors of the ornamental horticulture program also serve as advisors to the vocational student organization (FFA) that provides leadership development for students enrolled in the program. |  |  |  |  |
| 7. The following horticulture facilities, conforming to state standards, are available for use in the instructional program.<br>A. Greenhouse (70 sq. feet/student) minimum 3,000 sq. feet |  |  |  |  |
| B. Head house and work area (600 sq. feet total) |  |  |  |  |
| C. Walk-in cooler (10 x 10) |  |  |  |  |
| D. Storage area: Chemical storage 8' x 10'<br>Supplies - Dry 1,200 sq. feet<br>Equipment Storage 1,600 sq. feet |  |  |  |  |
| E. Classroom/Laboratory - 1,800 sq. feet |  |  |  |  |

|  | Yes | No | But | Comment |
|---|---|---|---|---|
| F. Instructor's Office |  |  |  |  |
| G. Horticulture mechanics laboratory (2,000-2,400 sq. feet) |  |  |  |  |
| H. Outdoor land laboratory (5 acres optimum) |  |  |  |  |
| I. Sales display area - 600 sq. feet |  |  |  |  |
| J. Appropriate restrooms, showers, and locker rooms |  |  |  |  |
| 8. Equipment is commensurate with state horticulture business and industry standards and instructional objectives. |  |  |  |  |
| 9. An adequate ornamental horticulture library is maintained and kept current. (This should be in the horticulture area) |  |  |  |  |
| 10. Instructors are certified teachers of Agriculture Education and have earned a minimum of 18 semester credits in ornamental horticulture. In addition, instructors have been employed 1,500 hours in the ornamental horticulture business or industry. |  |  |  |  |
| 11. Fifteen students represent the maximum enrollment in classroom/laboratory classes. If there are more than three special needs students in a class, an instructional aid will be provided. |  |  |  |  |

## STANDARDS SPECIFIC TO AGRICULTURAL PRODUCTS
## SECONDARY

| | Yes | No | But | Comment |
|---|---|---|---|---|
| In addition to the 10 standards common to all agriculture/agribusiness programs, the following criteria for secondary agricultural products education are to be met: | | | | |
| 1. The program provides two years of specialization in agricultural products during grades eleven and twelve. | | | | |
| 2. Students planning to enroll in the agricultural products curriculum at the secondary level have completed a one- or two-year basic vocational agriculture program. | | | | |
| 3. The program of study is based upon approved agricultural products curriculum guides adapted to meet the needs of students enrolled. | | | | |
| 4. The program allocates 60% of the instructional time for supervised classroom activities and 40% for laboratory experience. | | | | |
| 5. Students are engaged in related supervised occupational experiences beyond normal classroom and laboratory instruction. They receive experience and credit when placed for occupational experience, or directed laboratory experience. | | | | |
| 6. The instructor has a minimum of one period each day for planning and one for supervision of students on the job site. | | | | |

| | Yes | No | But | Comment |
|---|---|---|---|---|
| 7. A minimum of one on-site supervision visit per student every two months is made by the instructor to each cooperating employer. | | | | |
| 8. The local FFA chapter integrates agricultural products into its annual program of activities and participates in local, district, state and national programs involving agricultural products activities. | | | | |
| 9. Students are counseled concerning interests, attitudes, physical requirements and other qualifications essential to successful entry and employment in agricultural products. | | | | |
| 10. An agressive program of recruitment and selection is conducted in cooperation with the guidance department. | | | | |
| 11. The program provides experiences at the school or industry site in a food processing laboratory with a minimum of 3,000 square feet of floor space reflects the occupational work areas in industry. Adequate heat, light, ventilation and safety provisions are provided. | | | | |
| 12. Large and easily accessible storage facilities of sufficient size to accommodate equipment and materials used in agricultural products processing are provided. | | | | |
| 13. Adequate, modern laboratory equipment, typical of that used in industries in which trainees will become employed, is provided to meet instructional needs. | | | | |
| 14. Facilities and equipment meet local, state and federal regulations. | | | | |

| | Yes | No | But | Comment |
|---|---|---|---|---|
| 15. Laboratory work in testing food product quality and sanitary standards is conducted by students in the school or industry site. | | | | |
| 16. The classroom and laboratory are orderly and attractive and provide students an example of good industry housekeeping. | | | | |
| 17. Class size is limited to a maximum of 15 students. | | | | |
| 18. The instructor has completed a minimum of 1,500 hours of gainful employment in agricultural products occupations. | | | | |
| 19. The instructor participates in a maximum of four weeks of professional improvement activities every three years. | | | | |

## STANDARDS SPECIFIC TO AGRICULTURAL MECHANICS
## SECONDARY

| | Yes | No | But | Comment |
|---|---|---|---|---|
| In addition to the 10 standards common to all agriculture/agribusiness programs, the following criteria for agriculture mechanics are to be met: | | | | |
| 1. A minimum of one on-site supervision visit every two months is made by the instructor to each cooperating employer. | | | | |
| 2. Wages are paid to the student during an on-the-job training period. | | | | |
| 3. The minimum time spent by a secondary student each year on occupational experience in agricultural mechanics in addition to regular class and laboratory/shop instruction approximate the following:<br>1st year 100 hours<br>2nd year 150 hours<br>3rd year 200 hours<br>4th year 300 hours | | | | |
| 4. Facilities are designed and used only for agricultural mechanics instruction. | | | | |
| 5. Agricultural mechanics facilities include a self-contained unit which houses classrooms, laboratories, offices, storage and complimentary auxiliary features. | | | | |
| 6. Adequate student lockers, restrooms and clean-up facilities are provided. | | | | |

|  | Yes | No | But | Comment |
|---|---|---|---|---|
| d. Appropriate levels of federal, state, and local funding are provided for the development and maintenance of the program. |  |  |  |  |
| e. The local plan provides for facilities and equipment. Funds are budgeted for salaries, travel, educational supplies, and other instructional needs. |  |  |  |  |
| f. Those enrolled are considered students of the local or area school. |  |  |  |  |
| g. Instruction is provided on a year-round basis. |  |  |  |  |
| h. The enrollment includes ten or more students per class and a minimum of 30 clock hours of instruction. |  |  |  |  |
| i. Scheduled time for individual instruction on a year-round basis at the local level is provided. |  |  |  |  |
| j. Qualified supervisory/consultant staff for coordinating Young Farmer and other Adult Education is provided by the local district. |  |  |  |  |
| k. The Young Farmer Association (Y.F.A.) is an integral part of the state and local agriculture/agribusiness program. |  |  |  |  |
| 21. The teacher provides administration with a monthly report of instructional activities which is on file in the department and administration offices. |  |  |  |  |

<table>
<tr><th></th><th>Yes</th><th>No</th><th>But</th><th>Comment</th></tr>
<tr><td>7. The minimum square footage devoted to agricultural mechanics instruction is:
<table>
<tr><th>Area</th><th>1 Teacher</th><th>2 Teachers</th></tr>
<tr><td>Office</td><td>120</td><td>180-240</td></tr>
<tr><td>Classroom</td><td>840</td><td>840</td></tr>
<tr><td>Classroom Storage</td><td>120</td><td>120</td></tr>
<tr><td>Mechanics Laboratory</td><td>3800</td><td>4200</td></tr>
<tr><td>Shop Storage</td><td>320</td><td>480</td></tr>
</table></td><td></td><td></td><td></td><td></td></tr>
<tr><td>8. The main entrance to the agricultural mechanics laboratory is a minimum of 14 feet high and 16 feet wide.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>9. Recommended lighting and ventilation are provided.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>10. Adequate library, outside storage areas and locker space are provided.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>11. Tools and equipment are modern and comparable to those currently used in agriculture/business.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>12. The student-instructor ratio does not exceed 15 students per instructor for laboratory and occupational experience supervision.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>13. The instructor has completed a minimum of 2,000 hours of gainful employment in an agriculture mechanics occupation.</td><td></td><td></td><td></td><td></td></tr>
<tr><td>14. The instructor participated in a minimum of four weeks of professional improvement activities every three years.</td><td></td><td></td><td></td><td></td></tr>
</table>

## STANDARDS SPECIFIC TO PRODUCTION AGRICULTURE
## SECONDARY

| | Yes | No | But | Comment |
|---|---|---|---|---|
| In addition to the 10 Standards common to all agriculture/agribusiness programs, the following criteria for secondary production agriculture are to be met: | | | | |
| 1. Class size is limited to a maximum of 15 students. For students with special needs, the limit is 10 per class. | | | | |
| 2. A minimum of 240 hours of net class time per year is provided during the year. | | | | |
| 3. Instructors submit to the administration a carefully planned program of responsibilities to be assumed during the summer months. | | | | |
| 4. The instructor provides a minimum of four on-site supervisory visits per student during a 12-month period. | | | | |
| 5. The instructor schedules a minimum of eight hours per week for occupational experience supervision. | | | | |
| 6. Instructors certified to teach production agriculture have preparation in agricultural economics and business analysis, animal science, plant and soil science, agricultural mechanics, and leadership development. They have had two or more years of farm experience or equivalent occupational experience. | | | | |
| 7. Instructor participates in a minimum of four weeks of professional improvement activities every three years. | | | | |

| | Yes | No | But | Comment |
|---|---|---|---|---|
| 8. The maximum student-teacher ratio is 50 to 1. Special needs student-teacher ratio is 25 to 1. | | | | |
| 9. Student receives a minimum of one semester credit per hour of daily instruction. | | | | |

## STANDARDS SPECIFIC TO ADULT EDUCATION IN AGRICULTURE/AGRIBUSINESS

| | Yes | No | But | Comment |
|---|---|---|---|---|
| In addition to the 10 Standards common to all agriculture/agribusiness programs, the following criteria for adult agriculture/agribusiness programs are to be met: | | | | |
| 1. Instructors meet certification standards established by Pennsylvania Department of Education. | | | | |
| 2. Instructors employed full-time in Young Farmer and other adult education programs have been specifically trained to work with adults and have successful occupational experience in the area to be taught. | | | | |
| 3. Adult education instructors hold the minimum of a bachelor's degree and have completed at least 40 hours in technical agriculture/agribusiness including management. | | | | |
| 4. Resource specialists are certified to teach in specific areas for which they qualify by either experience, education or a combination of both. | | | | |
| 5. Instructors attend annual state in-service workshops dealing with problems relating to Adult Education in Agriculture/Agribusiness. | | | | |
| 6. Instructors understand and carry out their job descriptions. Itineraries and work schedules are developed and followed. | | | | |
| 7. State and local young farmer associations are non-profit, non-political and non-discriminatory. | | | | |

| | Yes | No | But | Comment |
|---|---|---|---|---|
| 8. The local Y.F.A. advisor is the instructor of the vocational agriculture/agribusiness class(es) for young farmers. | | | | |
| 9. The Y.F.A. executive committee, or a committee appointed by it, is responsible for the planning and execution of an annual program of activities. | | | | |
| 10. The Standards for Quality Vocational Programs in Agricultural/Agribusiness Education are used by the school administration and/or the advisory committee in assessing the needs of Young Farmer and other adult education programs in agriculture/agribusiness. The findings are made available for future program planning and development. | | | | |
| 11. Current state standards and guidelines are followed in the development of the adult agriculture/agribusiness education program. | | | | |
| 12. The annual plan and related reports for the adult education program are submitted to the local administrator and the appropriate state agency for approval. | | | | |
| 13. The instructional program reflects the occupational needs, crucial problems, goals and objectives of the students. These are organized by the instructor into a systematic and sequential schedule which includes individual on-the-job instruction. | | | | |
| 14. Lesson plans are developed that clearly state instructional objectives, learning activities and resources to be used in the instructional program. | | | | |

| | Yes | No | But | Comment |
|---|---|---|---|---|
| 15. A variety of teaching methods is employed in conducting the instructional program. | | | | |
| 16. Individualized instruction is provided on a year-round basis. This individual instruction is intensive during the first year and is provided as needed in subsequent years. | | | | |
| 17. Instruction in farm, ranch and other business records, computerized business analyses, and other decision making techniques are provided in the instructional program. | | | | |
| 18. Periodic student evaluation is conducted by the instructor and discussed with the student. | | | | |
| 19. Young Farmer Chapters and other Adult Education in Agriculture/Agribusiness are recognized and conducted as part of the secondary and postsecondary vocational program. | | | | |
| 20. Local plans provide for the following:<br>a. Advisory committees representing young and adult farmers and appropriate agribusiness representatives are created to assist in identifying program needs. The committees meet two or more times each year to effectively carry out the programs. | | | | |
| b. Advisory committee members are selected with the approval of the school administration. | | | | |
| c. Both annual and long-term instructional plans are developed to meet local needs. | | | | |

| | Yes | No | But | Comment |
|---|---|---|---|---|
| 22. An annual evaluation of the program is conducted by representatives of school administration, advisory committee, class members and local and state staff using the Standards for Quality Vocational Programs in Agricultural/Agribusiness Education and other appropriate evaluation instruments. | | | | |
| 23. Summaries of evaluation findings are prepared by local administrators and distributed to the state vocational agriculture/agribusiness administration and to those who participated in making the evaluation. | | | | |

Commonwealth of Pennsylvania
DEPARTMENT OF EDUCATION
Bureau of Vocational Education
Box 911, Harrisburg, PA 17108

## APPLICATION FORM
## FOR THE
## EXEMPLARY VOCATIONAL EDUCATION PROGRAM PROJECT

Name of School ______________________________

Mailing Address ______________________________

______________________________

______________________________ Zip Code ________

Telephone ______________ - ______________________
Area Code

I.U. ______________________________

Brief Description of Program Applying (50 words or less):

Submitted by ______________________________

Position ______________________________ Date ________

Please return this form to:

Vernon L. Register, Coordinator
Exemplary Vocational Programs
Pennsylvania Department of Education
Box 911
Harrisburg, Pennsylvania 17108

VLR/jg8800

[illegible]-3090 (1/84)

# III. ADVISORY COMMITTEE MEMBERS

## III. ADVISORY COMMITTEE MEMBERS

The use of an advisory committee in the vocational agriculture department is essential. This committee helps to: (1) keep the vocational agriculture program updated on community needs; (2) provides avenues by which people in the community will have meaningful input into decisions concerning their own needs; (3) inform people within the community about accomplishments of students in the vocational agriculture program; and (4) establish future plans for the department. Specifically, functions of advisory committees in vocational agriculture are as follows:

1. To determine occupational manpower needs of the community.
2. To determine the training needs of students and suggest course content for entry into occupational fields.
3. To review the goals and objectives of the program.
4. To assist in adapting the program to new and changing conditions.
5. To help secure resource personnel for instruction.
6. To suggest placement opportunities for cooperative work experiences.
7. To review ways of relating in-school to on-the-job instruction.
8. To advise on the establishment and use of local training standards.
9. To assist in evaluation of programs and procedures.
10. To help with the placement and follow-up of students upon graduation.

Keep a list of your advisory committee members' names, addresses and telephone numbers in this section for easy reference.

# IV. SCHOOL AND DEPARTMENTAL PHILOSOPHY

# IV. SCHOOL AND DEPARTMENTAL PHILOSOPHY

The departmental philosophy reflects the purpose of the vocational agricultural education program. The philosophy addresses the importance of and shows how vocational agriculture integrates with the school as well as the community. A specific school philosophy has been developed by your school district. Obtain your school philosophy from your district office and put it in this section of the planning guide for reference.

When writing the departmental philosophy, refer to the school philosophy. Be sure that your departmental philosophy reflects the philosophy of the school. Examples are in Appendix 1. Refer to these examples as you write the department's philosophy. Keep your departmental and school philosophy in this section of the planning guide.

# V. SCHOOL AND PROGRAM OBJECTIVES

## V. SCHOOL AND PROGRAM OBJECTIVES

Program goals and objectives should be developed and publicized in order to communicate program directions to the public in general, and specifically to students, administrators, parents, and advisory committee members. Obtain your school objectives from your district office, and place a copy in this section. In developing your departmental goals and objectives, keep them specific, clear, concise, and in agreement with the school goals. There should be at least one objective for each major component of the program.

Program objectives are an integral part of the course of study for a vocational agriculture program. They provide a guide for the activities occurring within the program. Many school list these objectives in their staff handbooks. This list should be included in the departmental course of study. While you are developing your program objectives, make sure that they agree with the objectives of the school district.

When developing program objectives, keep two major ideas in mind:

1. Be sure the objectives are stated in terms of student achievement. What will the student be able to do at the completion of the program?
2. Be sure departmental and course objectives reflect community needs, student needs, and job opportunities.

An example of objectives for a vocational agriculture program are found in Appendix 2. Refer to the example when developing objectives for your program.

## VI. COMMUNITY-NEEDS ASSESSMENT

A description of the employment opportunities in the community and community resources are important components of a "community specific" course of study. Assessing your community's needs is the first step toward development of a complete course of study. Before you can plan units and problem areas, you must first determine your community needs and resources.

### Community Description

The planning guide recommends three steps to use in assessing community needs. The first is to develop a description of the community, including its demographics and culture. The community's boundaries are determined by the area served by your school. The description should include the following: historical information, demographic data, agricultural emphasis, and recreational and educational opportunities. A map showing the location of the school in the community would be helpful.

This community description will help to determine specific areas in which the vocational agriculture department can serve. Coupled with identification of job opportunities for students and a community resource list, you will have a sound basis for developing a course of study that meets community needs. A sample community description is presented in Appendix 4.

### Occupational Analysis

The second step is to identify the occupational opportunities within the community. The Stinson Model (Appendix 3) is useful in preparing a list of the potential employers for graduates of the school. Keep this information for future reference and program planning.

## Community-Resource List

The last step of the community-assessment process is the development of a community resource list. This list will serve as a "directory" to valuable community resources needed by the vocational agriculture department. The format for this resource list is presented in Appendix 4.

Complete the community assessment before developing your course content!!!

After completing the community needs assessment, you are ready to write a justification for the existence of your program in the school curriculum. You are ready to identify and develop the units and problem areas for the vocational agriculture courses you plan to offer. Throughout this process you should rely upon input from members of the advisory committee. This committee should assist you at each step in this process.

Include copies of your community description, occupational analysis, and community-resource list in this section.

# VII. STEP-BY-STEP PLANNING

## Instructions for the Use of the Planning Pages and Labels

This is the "heart" of the planning guide. The format pages have been designed to allow you to "map out" your 4-year secondary vocational agriculture course of study, using sets of planning pages based on a school year and removable gum labels. A step-by-step set of instructions is listed to help you use this section of the planning guide.

To help you organize this section, the course content has been divided into two parts: (1) the entire 3- or 4-year program, and (2) each individual grade level. The planning pages correspond with these parts.

The first two pages are used to develop the 4-year plan by units of instruction. The second set (four grade levels) contains the structure for both the unit and problem areas that will be covered in each individual grade level. All planning pages are designed to facilitate the removal of labels if incorrectly placed.

The removable labels are included in the planning guide. The printed labels correspond to units and problem areas in a production agriculture course. Blank labels are also included to accommodate local program needs.

## Planning Process

1. Select the units of instruction based on your local needs.
2. Determine problem areas under each unit you will teach.
3. Using unit labels and planning sheets, place the units you will teach under respective grade levels.
4. Using both unit and problem-area labels and planning sheets, "map out" your yearly plan for each grade level.

5. Once finished you will have a complete course of study for your vocational agriculture program.
6. Update your course of study annually.

Appendix 8 contains an example of how you might develop a 9th grade program using the planning sheets and labels provided in the sections that follow.

FOUR-YEAR VOCATIONAL AGRICULTURE

SCHOOL ______________________ COURSE OF STUDY STUDENT/TEACHER CONTACT TIME:

TEACHER ______________________ "UNIT TITLES" 9th __; 10th __; 11th __; 12th __

| MONTH | PROGRAM | NINTH | TENTH | ELEVENTH | TWELFTH |
|---|---|---|---|---|---|
| SEPTEMBER | | | | | |
| OCTOBER | | | | | |
| NOVEMBER | | | | | |
| DECEMBER | | | | | |

| NINTH | TENTH | ELEVENTH | TWELFTH | PROGRAM | MONTH |
|---|---|---|---|---|---|
| | | | | | JANUARY |
| | | | | | FEBRUARY |
| | | | | | MARCH |
| | | | | | APRIL |
| | | | | | MAY |

## "PROBLEM AREA TITLES"

SCHOOL ____________________

FOUR-YEAR
VOCATIONAL AGRICULTURE
CURRICULUM

GRADE/YEAR __________

TEACHER ____________________

DATE ________________

| M | W | | | | | |
|---|---|---|---|---|---|---|
| SEPTEMBER | | | | | | |
| OCTOBER | | | | | | |
| NOVEMBER | | | | | | |
| DECEMBER | | | | | | |

|  |  |  |  |  | W | M |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  | JANUARY |
|  |  |  |  |  |  | FEBRUARY |
|  |  |  |  |  |  | MARCH |
|  |  |  |  |  |  | APRIL |
|  |  |  |  |  |  | MAY |

## "PROBLEM AREA TITLES"

SCHOOL ____________________

TEACHER ____________________

FOUR-YEAR
VOCATIONAL AGRICULTURE
CURRICULUM

GRADE/YEAR __________

DATE ________________

| M | W | | | | | |
|---|---|---|---|---|---|---|
| SEPTEMBER | | | | | | |
| OCTOBER | | | | | | |
| NOVEMBER | | | | | | |
| DECEMBER | | | | | | |

|  |  |  |  |  | W | M |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  | JANUARY |
|  |  |  |  |  |  | FEBRUARY |
|  |  |  |  |  |  | MARCH |
|  |  |  |  |  |  | APRIL |
|  |  |  |  |  |  | MAY |

"PROBLEM AREA TITLES"

SCHOOL ____________________
TEACHER ____________________

FOUR-YEAR
VOCATIONAL AGRICULTURE
CURRICULUM

GRADE/YEAR __________
DATE ________________

| M | W | | | | | |
|---|---|---|---|---|---|---|
| SEPTEMBER | | | | | | |
| OCTOBER | | | | | | |
| NOVEMBER | | | | | | |
| DECEMBER | | | | | | |

|  |  |  |  |  | W | M |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  | JANUARY |
|  |  |  |  |  |  | FEBRUARY |
|  |  |  |  |  |  | MARCH |
|  |  |  |  |  |  | APRIL |
|  |  |  |  |  |  | MAY |

## "PROBLEM AREA TITLES"

SCHOOL ____________________

FOUR-YEAR
VOCATIONAL AGRICULTURE
CURRICULUM

GRADE/YEAR __________

TEACHER ____________________

DATE ______________

| M | W | | | | | |
|---|---|---|---|---|---|---|
| SEPTEMBER | | | | | | |
| OCTOBER | | | | | | |
| NOVEMBER | | | | | | |
| DECEMBER | | | | | | |

|  |  |  |  |  | W | M |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  | JANUARY |
|  |  |  |  |  |  | FEBRUARY |
|  |  |  |  |  |  | MARCH |
|  |  |  |  |  |  | APRIL |
|  |  |  |  |  |  | MAY |

## VIII. SCHEDULE OF ACTIVITIES/SUMMER PROGRAMMING

The vocational agriculture program traditionally has been conducted on a fiscal year basis with teachers employed 12 months starting July 1 each year. The proper use of this important summer program time is necessary for quality vocational agriculture programs.

In the vocational agriculture program many activities are scheduled during the entire year which include both the student and the teacher. Examples include shows, fairs, FFA activities, and SOE program supervision by the teacher.

In order to help you plan and organize your SOEP activities, planning pages have been developed for scheduling SOEP activities throughout the school year. In addition, three monthly calendar pages have been devoted to the summer program. Labels are provided to help you develop your schedule of activities for the school year and the summer (see example in Appendix 6).

1. Using the planning pages and labels, list your SOE and FFA activities for the school year and summer. This will help you keep track of many events which occur regularly each year.
2. Use references (SOE Guide, Steve Miller's Monthly Planning Guide), and an advisory committee to keep this up to date.

SCHEDULE OF ACTIVITIES/SUMMER PROGRAM

YEARLY CALENDAR

SCHOOL ______________________________ INSTRUCTOR ______________________________

| M | W | | | | |
|---|---|---|---|---|---|
| SEPTEMBER | | | | | |
| OCTOBER | | | | | |
| NOVEMBER | | | | | |
| DECEMBER | | | | | |

|  |  |  |  |  | W | M |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  | JANUARY |
|  |  |  |  |  |  | FEBRUARY |
|  |  |  |  |  |  | MARCH |
|  |  |  |  |  |  | APRIL |
|  |  |  |  |  |  | MAY |

| M | W | | | | | |
|---|---|---|---|---|---|---|
| JUNE | | | | | | |
| JULY | | | | | | |
| AUGUST | | | | | | |

# IX. ADULT PROGRAMS

Many schools now have adult/young farmer programs. Others need to initiate programs. Planning the adult education program is equally as important as planning in the classroom. An annual plan devised by the vocational agriculture teacher with assistance from the advisory committee, and/or state consultant is necessary for a successful adult program.

Adult programs designed by the vocational agriculture instructor should meet individual needs within the agricultural community.

The objectives of an adult program is to:

1. Provide educational opportunities in agriculture for adults in the local community.
2. Provide on-site supervision for adult members enrolled in the program.
3. Develop rural leaders.
4. Provide assistance to the agriculture community when needed.

This planning guide allocates a section for annual planning of adult programs. Planning pages and blank labels are included for specific adult-farmer activities. Use these planning pages to list meetings and topics or other important activities for your adult education program.

## ADULT PROGRAM
## YEARLY PLANNING

SCHOOL ______________________________

INSTRUCTOR __________________________ ADULT FARMER TIME __________________________

| MONTH | | | | | |
|---|---|---|---|---|---|
| SEPT | | | | | |
| OCT | | | | | |
| NOV | | | | | |
| DEC | | | | | |
| JAN | | | | | |
| FEB | | | | | |

|  |  |  |  |  | MONTH |
|---|---|---|---|---|---|
|  |  |  |  |  | MARCH |
|  |  |  |  |  | APRIL |
|  |  |  |  |  | MAY |
|  |  |  |  |  | JUNE |
|  |  |  |  |  | JULY |
|  |  |  |  |  | AUG |

SPECIAL NOTES:

## X. STUDENT EVALUATION

A portion of this planning guide is set aside for discussion of evaluation. Student evaluation is important, because in vocational education it is a basis for predicting occupational success. The course of study should include evaluation philosophy and policy, evaluation of student performance in manipulative activities, evaluation of student knowledge, and evaluation of student personal development.

It is important that evaluation of students in vocational education be criterion-referenced. In criterion-referenced evaluation, the requirements are set in advance. Performance objectives should state the standards students are to achieve. Students meeting the standards receive high grades. Students failing to meet the standards receive low grades. If all students achieve the acceptable occupational competence, they all should receive high grades.

Norm-referenced evaluation should be avoided. With norm-referencing, students are placed on a curve with the highest-achieving student receiving high grades and the lowest-achieving students failing. Favorable or failing grades should be awarded depending upon the degree of success shown by the student in becoming occupationally competent, rather than achievement in relation to other students.

Teachers should consider the percentage of the grade that will be determined by the various measures of student performance. Too often, a major portion of the grade is determined by traditional written examinations. In vocational education, the "doing" skills should receive greater weight, even though they may be more difficult to evaluate. An example breakdown of percentages follows:

| | |
|---|---|
| Supervised occupational experience programs | 25% |
| Laboratory performance | 25% |
| Personal development | 20% |
| Classroom achievement | 30% |

The percentages will vary according to the situation in the local school.

There are three "domains" of learning: cognitive, affective, and psychomotor. Cognitive learning refers to "head knowledge." It refers to what is known by students, and can be measured by paper and pencil tests. Affective learning refers to the development of attitudes, interests, cooperation, responsibility, and other facets of personal development. Some teachers refer to this as the development of a student's employability or work ethic. This learning is normally measured by rating scales. Psychomotor learning refers to the physical ability to do or perform a skill.

Students should be evaluated frequently. The more measures of performance, the more reliable will be the student's grades. A sample student-evaluation policy is presented in Appendix 7. Keep a copy of your student-evaluation policy in this section.

# XI. APPENDICES

# Appendix 1

## Philosophy Statement (Example)

# APPENDIX 1
# THE PHILOSOPHY OF VOCATIONAL AGRICULTURAL EDUCATION

## Preface

Agriculture is a basic industry. The well-being of our society and the economy of the United States require a productive and efficient agriculture. The increasing scientific and technological nature of the total agricultural complex, the continuing and expanding demand for food and fiber, and the mounting pressure on the renewable natural resources in our environment dictate the need for specifically educated and highly skilled entrepreneurs and employees.

Vocational agricultural education is a program founded upon a sound philosophical base. This base embraces the importance of the relationship of knowledge taught to its effective use and application. With this base upon which to build, the program has relevance, stability, and a sense of direction.

The philosophy reflects the fundamental purposes of vocational agricultural education and its place in the social, economic, and educational environments. Specifically, the philosophy addresses two fundamental questions:

- Why vocational agricultural education in lieu of or in conjunction with other educational concepts?
- What is the role of vocational agricultural education in meeting current and projected social, economic, and individual needs?

The vocational agricultural education program is a core-type curriculum aimed at preparing individuals for entrepreneurship or employment. In the philosophical foundation for vocational agricultural education, leadership emanates from the states of the nation. As a result, the vocational agricultural education delivery system possesses a set of standard characteristics to assist state educational agencies in program development, implementation, and administration.

Vocational agricultural education is a service effort for the individual and the business and industry of agriculture. Constituency support is cultivated and nurtured at all program levels so vocational agricultural education will prosper and grow. Close relationships are developed and maintained with persons who need vocational agricultural education and agencies that employ those people to ensure current and relevant program content and skill development.

## Key Concepts

The philosophy of vocational agricultural education provides the general explanation for the program. This general rationale is the base from which the program is developed.

The development of a program of vocational agricultural education requires a series of standard concepts that provide stability and direction and which are compatible with the philosophical foundation. These concepts, which are listed below, serve as a unifying force which makes vocational agricultural education a singular program in the educational system of the nation.

- Vocational agricultural education programs are developed and conducted as a part of educational systems and are in harmony with a total philosophy of education for the individual and the society.
- The changes within the agricultural sector of our technological society require that the major efforts of vocational agricultural education focus upon preparing individuals for work and for entrance into the work force or entrepreneurship.
- Vocational agricultural education programs relate to the productivity of people in terms of competencies in agricultural occupations, attitudes toward the occupations, and a willingness to produce efficiently.
- When vocational agricultural education programs are established, the opportunities within society and the needs of society will be considered as well as the interests and competencies of individuals.
- The quantity of vocational agricultural education programs will be in keeping with employment patterns at the local, state, and national levels--in that order.
- Vocational agricultural education, rather than being classified as a discipline within the educational system, is a unique and identifable program which combines the skills and technical content of various disciplines with the practical requirements of the world of work to prepare a person to succeed technically and socially.
- The vocational agricultural education program is unique in its requirements for community resource utilization, facility and equipment needs for instruction, curriculum, instructor qualifications, and student goals.
- To assure quality, vocational agricultural education programs are responsive to the needs of the individual for job-entry skills and the compatible skills of communication, citizenship and leadership, decision-making, positive attitude towards learning, and personal and occupational responsibility.
- Vocational agricultural education programs possess a time commitment of sufficient length and intensity to provide instruction important to the successful entrance of the student into and advancement within the chosen occupation or entrepreneurship.

- Vocational agricultural education programs are developed and conducted with individuals representing business and industry in the occupational area in which the program is being offered serving in an advisory capacity.

- Vocational agricultural education is a part of the career development continuum which includes:

  -- Education for choice of an agricultural occupation through career motivation, career orientation, and career exploration.

  -- Education for entrepreneurship or employment--vocational agricultural education.

  -- Education for upgrading and retraining vocational agricultural education graduates.

- Vocational agricultural education begins by defining occupational objectives and providing preparation for a job in agriculture. It ends with individuals successfully entering entrepreneurship or jobs in agriculture. These individuals will have capacities to continue to learn and transfer personal and occupational skills to meet the changing job requirements of the agricultural sector in a technological society.

- Vocational agricultural education programs are available for youth at both the high school and post-high school levels, and for adults throughout their working life.

- All instructional, supervisory, administrative, and teacher education personnel in vocational agricultural education at the state and local levels shall be competent, with expertise in the field for which they are responsible.

## Appendix 2

## Program Objective (Example)

## APPENDIX 2
## EXAMPLES OF OBJECTIVES FOR VOCATIONAL AGRICULTURE PROGRAM

### Program Objectives

1. To develop agricultural competencies needed by individuals for gainful employment in entry-level positions in the production of food and fiber.
    - basic knowledge, skills, and abilities in crop production;
    - basic knowledge, skills, and abilities in livestock production;
    - basic knowledge, skills, and abilities in agricultural mechanics;
    - basic knowledge, skills, and abilities in farm management;
    - basic math and science principles as well as communication skills and safety precautions and regulations.

2. To provide personal-development competencies needed by individuals in production agriculture through participation in leadership, citizenship, and cooperative activities in the FFA program.

### Student Objectives

1. To help students develop competencies in all phases of agricultural production: plant and soil science, animal science, mechanics and economics.

2. To develop student leadership and citizenship skills through the Future Farmers of America and the Young Farmer Association.

3. To develop business and farm management skills through Supervised Occupational Experience programs.

4. To assist present and prospective farmers in improving their efficiency in production agriculture.

5. To assist students in developing the attitudes, understandings, and abilities necessary for successful entry and advancements in agricultural occupations.

6. To develop the competencies needed to secure placement and to advance in an agricultural occupation through a program of continuing education.

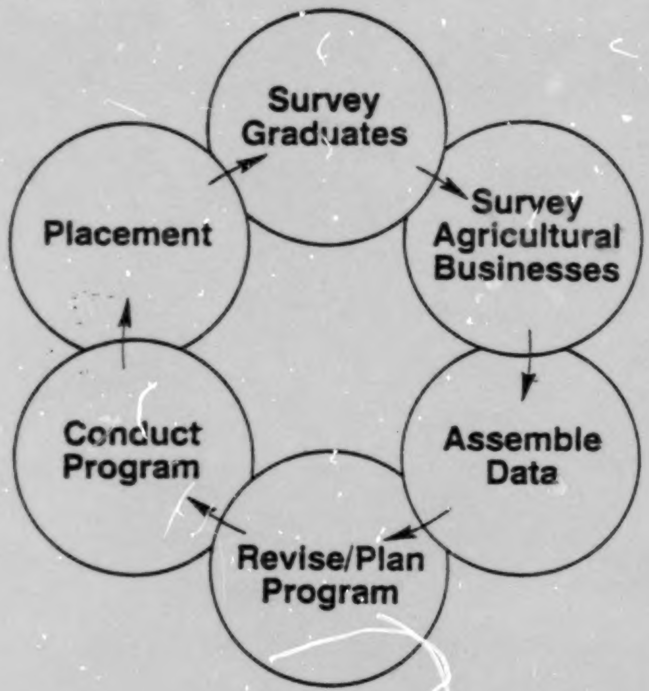
7. To develop those human relations skills required for success in an agricultural occupation.

## Appendix 3

## Job Opportunity Based Program Planning for Vo Ag-- A Working Model

# JOB OPPORTUNITY BASED PROGRAM PLANNING FOR VOCATIONAL AGRICULTURE

## A WORKING MODEL


Survey Graduates
Survey Agricultural Businesses
Assemble Data
Revise/Plan Program
Conduct Program
Placement

Richard F. Stimson

Department of Agricultural Education
The Pennsylvania State University
University Park, PA 16802

Pennsylvania Department of Education
Bureau of Vocational Education
Research Coordinating Unit

Teacher Education Research Series
Volume 19 Number 1
1978

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# NOTE

This "Job Opportunity Based Program Planning for Vocational Agriculture — A Working Model" is Exhibit A of "Final Report-Development of a Job Opportunity Based Planning Model for High School Vocational Agriculture Programs," Richard F. Stinson, Department of Agricultural Education, The Pennsylvania State University and The Pennsylvania Department of Education, Bureau of Vocational Education, Research Coordinating Unit. 102 pp, Teacher Education Research Series 18 (1), 1977.

The advisory committee members for this study were: Mr. J. C. Fink, State Supervisor of Agricultural Education; Drs. F. Anthony, S. M. Curtis, D. E. Evans, N. K. Hoover, D. L. Howell, G. Z. Stevens, and W. Williams of The Pennsylvania State University; Mr. W. C. Shaeffer of the Department of Agricultural Education; Mr. M. R. Deppen, Assistant Director of The Cooperative Extension Service, The Pennsylvania State University; and Mr. Ronald Attarian of W. B. Saul High School of Agricultural Science, Philadelphia, Pa.

The following research graduate assistants helped with the original study: Paul A. Blair, Connie D. Baggett, Dennis Sopp, and Linda C. Wilson.

## DID YOU KNOW

THAT OVER 91 PERCENT OF VO AG GRADUATES HOLD THEIR FIRST JOBS WITHIN 20 MILES OF THE SCHOOL?

THAT 98 PERCENT OF VO AG GRADUATES ARE WILLING TO SEEK JOBS ONLY WITHIN AN AREA UP TO 25 MILES FROM THE SCHOOL?

THAT THESE DISTANCES ARE THE SAME REGARDLESS OF THE FIELD OF STUDY?

THAT OVER 54 PERCENT OF VO AG GRADUATES ARE EMPLOYED IN THEIR FIELD OF STUDY?

THAT GRADUATES RELY HEAVILY ON FRIENDS, ADVERTISEMENT, AND EMPLOYMENT AGENCIES IN SEEKING JOBS?

THAT GRADUATES WHO HAD BEEN IN COOPERATIVE EDUCATION PROGRAMS HAVE A VERY MUCH HIGHER PERCENTAGE OF FULL-TIME EMPLOYMENT?

# FOREWORD

Probably the most effective means for enabling teachers to plan a program of instruction with this working model is an in-service course or a workshop scheduled with about six meetings at sufficient intervals to allow collecting and compiling information. The guidance of a teacher-educator and the shared insights of the teacher participants are essential ingredients.

This working model might also be used as a guide for a teacher enrolled in a special problems study with a teacher-educator.

The loose-leaf style was chosen for this working model so that individual forms may be easily removed for reproduction, and users may easily incorporate new and different material.

# INTRODUCTION

Secondary school graduates who seek entry level employment are likely to cross community, county, and even state boundary lines for jobs in their fields of occupational training. Topography, aquatic barriers (rivers and lakes), and good highways may have a strong influence on the geographical area where graduates of a particular high school seek entry-level employment.

High school vocational programs are frequently based on findings from county business census figures or from surveys of businesses within the school district, community, or county. These findings may bear little relationship to the geographical area (a 25-mile radius from the high school) within which graduates actually seek employment. This lack of a firm base on which to develop vocational programs can result in inappropriately trained graduates, poorly defined programs, or in severe cases, inappropriate allocation of funds, space, and time, or even the abandonment of vocational agriculture programs.

The purpose of this model is to lead school program planners through a series of sequential steps from determining job opportunities, to development of a program of study designed to prepare vocational agriculture graduates appropriately for jobs that will be available to them.

The steps developed in this unit, as well as the survey forms suggested, the list of job titles, and the duty level competency lists, are based on findings of a 3-year study, "Development of a Job Opportunity Based Planning Model for High School Vocational Agriculture Programs."

Some pertinent findings of this study which were incorporated in the model are:

a. Over 91 percent of the graduates held (first) jobs within 20 miles of the school.

b. Over 98 percent of the graduates indicated a willingness to seek jobs within an area up to 25 miles from the school.

c. Distances in a. and b. were the same regardless of the field of study (type of agricultural business).

d. Over 54 percent of the graduates were employed in their field of study.

e. Graduates relied heavily on friends, advertisements, and employment agencies in locating job openings.

f. Graduates who had participated in cooperative education programs had a very much higher percentage of full time employment than those who had not.

The steps in the model are depicted visually in Figure 1. The model is equally applicable to both new and existing programs. It should be noted that this model is cyclic; each class of graduates is surveyed about one year after graduation, and the business survey is conducted every 2 to 3 years. The data and other information gathered in these surveys are then used to make annual evaluations and changes in the program.

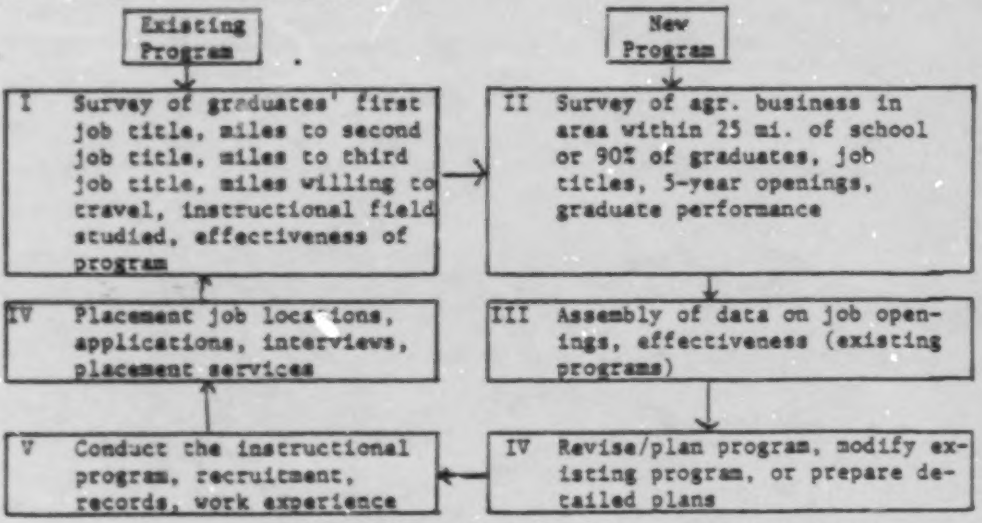
Existing Program
New Program
I Survey of graduates' first job title, miles to second job title, miles to third job title, miles willing to travel, instructional field studied, effectiveness of program
II Survey of agr. business in area within 25 mi. of school or 90% of graduates, job titles, 5-year openings, graduate performance
IV Placement job locations, applications, interviews, placement services
III Assembly of data on job openings, effectiveness (existing programs)
V Conduct the instructional program, recruitment, records, work experience
IV Revise/plan program, modify existing program, or prepare detailed plans

Figure 1. Steps in Developing a Job Opportunity Based Plan for a Vocational Agriculture Program.

Some pertinent findings of this study which were incorporated in the model are:

a. Over 91 percent of the graduates held (first) jobs within 20 miles of the school.

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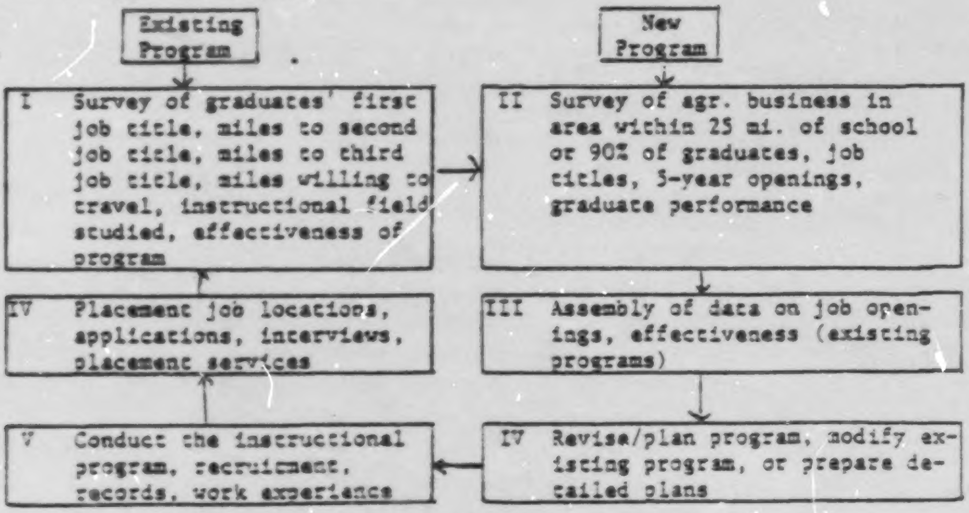
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II Survey of agr. business in area within 25 mi. of school or 90% of graduates, job titles, 5-year openings, graduate performance
IV Placement job locations, applications, interviews, placement services
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V Conduct the instructional program, recruitment, records, work experience
IV Revise/plan program, modify existing program, or prepare detailed plans

Figure 1. Steps in Developing a Job Opportunity Based Plan for a Vocational Agriculture Program.

How to use the model is detailed in the following pages. The first application deals with existing program.

## I SURVEY OF GRADUATES

### Existing Programs

1. Mail copies of Form 1, p. 9, together with the list of job titles, and a cover letter similar to the example, p. 7, to the vocational agriculture graduates of the last three classes. (For annual revision, the survey could be mailed in mid-May only to the graduates of the previous year.) Prompt response may be stimulated by using colored paper and by filling in the name and address blanks before mailing it to each person. The inclusion of a small gift, such as a tea bag or a stick of gum, with reference to it in the cover letter, has been found to result in higher response.

2. Ten days later, follow with a second mailing, marked SECOND REQUEST, to all non-respondents.

3. Twenty days after the original mailing, telephone all non-respondents who can be reached and fill out the form for each.

4. Tabulate results on a blank survey form.

5. On a highway map,* mark the exact location of each respondent's job, to obtain the direction and distance from the school for each.

6. Draw a boundary line on the map that encloses 90 percent of the positions nearest the school. This is interpreted as the area within which graduates have found jobs. The boundary line might not be circular.

---

*A free copy of the Pennsylvania Transportation Map may be obtained by addressing a request to: Travel Development Bureau, Pennsylvania Department of Commerce, Harrisburg, PA 17120.

7. Draw a circle (in another color) to indicate the distance that 90 percent of the graduates say that they would be willing to travel in order to be employed within the field in which they had studied. See Figure 2, p. 15, for an example of a marked map.

8. Using a blank Job Title form, p. 13, mark next to each job title the number of graduates who hold that position. On the last page tally those employed outside of agriculture.

9. Compile a list of all of the comments of graduates on ways of improving the program.

The tabulated and compiled information from this survey will be used as a base for surveying agricultural businesses, as well as for improving the existing program.

### New Programs

A survey of graduates is, of course, not possible in a program that has none; therefore, in planning for new programs a separate entry point is designated in the model, Figure 1, p. 2.

References:

A-10 Conduct a Student Follow-up Study. 1977. $3.50.
A-11 Evaluate your Vocational Program. 1977. $3.00
    from AAVIM, Engineering Center, University of
    Georgia, Athens, GA 30602.
System for Implementing Review and Follow-up. 1975.
Indiana Curriculum Materials Center, Indiana State University,
Terre Haute, IN 47808. $1.00

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System for Implementing Review and Follow-up. 1975.
Indiana Curriculum Materials Center, Indiana State University,
Terre Haute, IN 47808. $1.00

Cover Letter Example

(SCHOOL LETTERHEAD)

Dear ___________________:

We are sure that you share with us the concern that all students of the vocational agriculture program at______________ school have been appropriately trained for the jobs that they fill upon graduation. In order to help the teachers, administrators, and board of school directors to improve the present program, can you please take a few moments to fill out the enclosed survey form? Please have a cup of tea while filling out the form, the chances are pretty good that the form will be filled before your cup is empty.

1. Please return it in the enclosed envelope by______________.
(date)
2. Please feel free to write helpful comments directly on the form.

Your individual response will remain confidential, and only summary data from the survey will be used in planning improvements in the program. If you have any questions, please feel free to call me at ______________ between ____A.M. and ____P.M.
(tel. No.)

Sincerely yours,

______________________________
Vocational Agriculture Teacher

Form 1

CAREER SURVEY FOR GRADUATES OF VOCATIONAL AGRICULTURE PROGRAMS

Circle year of graduation from high school
High school classes of 1975, 1976 and 1977.

Date ______________________________

A. Your Present Status — Please fill in any blank spaces and/or correct any errors.

1. a. Your Name______________________Phone No. ( ) ______________
   b. Present Address
Number & Street________________________Town____________Zip Code________

2. What is your present work status (check only one item)?

a. ___Employed full time
b. ___Employed part time
c. ___Unemployed, looking for work
d. ___Unemployed, not looking for work
e. ___Military service
f. ___Homemaking, full time
g. ___Attending school full time

B. Employment:

3. Were you enrolled in cooperative education while in high school?

a. ___Yes  b. ___No

4. Give the exact name and address of your places of employment after graduation. Please also give the distance (in miles) between your work and your school at the time of employment.

a. First place of employment:
Name of business_________________________________
Street address__________________________________
Town or city____________________________________
County__________________________________________
State___________________________Zip code________
Distance from school in miles___________________
Number of months employed_______________________

b. Second place of employment:
Name of business_________________________________
Street address__________________________________
Town or city____________________________________
County__________________________________________
State___________________________Zip code________
Distance from school in miles___________________
Number of months employed_______________________

c. Third place of employment:
Name of business______________________________
Street address________________________________
Town or city__________________________________
County________________________________________
State________________________Zip code________
Distance from school in miles________________
Number of months employed____________________

5. How far would you be willing to move (change your residence) to fine employment in your field of occupational study?

a. ___miles from school

6. Check the high school classes in which you were enrolled in a vocatioanl agriculture program and check the specific area in which you were enrolled: (specific areas: Agricultural Mechanics, Agricultural Products, Floriculture and Ornamental Landscape, Forestry, Agricultural Production, Agricultural Resources, and Agricultural Supplies).

| YEAR OF SCHOOL | SPECIFIC AREA |
|---|---|
| a. ___Junior high | a. ___Ag. Mechanics |
| b. ___Freshman | b. ___Production Agriculture |
| c. ___Sophomore | c. ___Ag. Products, Processing, Marketing |
| d. ___Junior | d. ___Renewable Natural Resources |
| e. ___Senior | e. ___Ag. Supplies and Services |
| f. ___Mini course only | f. ___Forestry |
| | g. ___Horticulture |

7. How effective was your high school occupational program in preparing you for employment? (Check one below)

a. ___Poor b. ___So-so c. ___Good

8. How did you discover your first job after graduation from high school? Check:

a. ___continued in job held while a student in high school
b. ___help from agriculture teacher
c. ___help from guidance counselor
d. ___help from cooperative education program
e. ___employment agency: (Name):____________________
f. ___help from friends or relatives
g. ___on my own, visits, newspaper and magazine ads

c. Third place of employment:
Name of business________________________________
Street address__________________________________
Town or city____________________________________
County__________________________________________
State__________________________Zip code_________
Distance from school in miles___________________
Number of months employed_______________________

5. How far would you be willing to move (change your residence) to fine employment in your field of occupational study?

a. ___miles from school

6. Check the high school classes in which you were enrolled in a vocatioanl agriculture program and check the specific area in which you were enrolled: (specific areas: Agricultural Mechanics, Agricultural Products, Floriculture and Ornamental Landscape, Forestry, Agricultural Production, Agricultural Resources, and Agricultural Supplies).

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| c. ___Sophomore | c. ___Ag. Products, Processing, Marketing |
| d. ___Junior | d. ___Renewable Natural Resources |
| e. ___Senior | e. ___Ag. Supplies and Services |
| f. ___Mini course only | f. ___Forestry |
|  | g. ___Horticulture |

7. How affective was your high school occupational program in preparing you for employment? (Check one below)

a. ___Poor  b. ___So-so  c. ___Good

8. How did you discover your first job after graduation from high school? Check:

a. ___continued in job held while a student in high school
b. ___help from agriculture teacher
c. ___help from guidance counselor
d. ___help from cooperative education program
e. ___employment agency: (Name):____________________
f. ___help from friends or relatives
g. ___on my own, visits, newspaper and magazine ads

9. If you have not been employed in your field of occupational study since graduation from high school, check below your main reason.

   a. ___never planned to work in that field
   b. ___tried, but could not find work in that field
   c. ___better type work opportunity came along
   d. ___feel that I did not learn enough in high school
   e. ___decided I did not like type of work
   f. ___decided I did not like the work conditions
   g. ___discovered the pay was too low
   h. ___too little opportunity for advancement
   i. ___other reason (explain):______________________

10. On the attached list of "Agricultural Occupations," place a 1st next to the job title (name) which most closely matches your first job. If none of the job titles on the list matches your job, write in the name of the job on this line:______________________________

    Please do the same for later jobs:

    2nd job:______________________________

    3rd job:______________________________

11. What was your specific job objective at the time of your graduation from high school? On the attached list of occupational job titles circle the job that most nearly matches the one you had planned for while in school.

Form 2

# Job Titles for Entry-Level Agricultural Occupations

## Agricultural Mechanics

Bookkeeper
Service Clerk
Parts Salesperson
Tractor Mechanic
Tractor Mechanic Helper
Farm Equipment Mechanic Apprentice
Farm Machinery Set Up Man
Maintenance Mechanic
Maintenance Mechanic Repairman
Maintenance Mechanic Helper
Lawn Mower Repairman
Welder
Stores Laborer

## Production Agriculture

Crew Leader
Stableman
Cash Grain Farmer
Tobacco Grower
Tobacco Farm Hand
Hog Farmer
Farm Manager
Tenant Farmer
Contract Farmer
Share Cropper
Airplane Pilot Helper
Dairy Farmer
Dairy Farm Hand
Milking Machine Operator
Poultry Foreman
Poultryman
Agricultural Aide
Poultry Farm Hand
Hatchery Laborer
Swine Herdsman
Horse Raiser
Sheep Rancher
Livestock Farm Hand
Animal Breeder
Game Farm Helper
Animal Caretaker
General Farmer
General Farm Hand
Sprayer
Heavy Equipment Operator
Farm Foreman

## Agricultural Products, Processing, and Marketing

Poultry Grader
Bookkeeper
Shipping Clerk
Feedstuff Salesman
Driver Salesman
Agricultural Produce Packer
Grader Man
Butcher
Meat Dresser
Poultry Dresser
Poultry Dresser Worker
Poultry Hanger
Meat Trimmer
Egg Grader
Production Helper, Fruits and Vegetables
Dairy Processing Equipment Operator
Dairy Helper
Laborer
Milk Driver

## Renewable Natural Resources

Game Farm Helper
Gamekeeper
Hunting and Fishing Guide

## Agricultural Supplies/Services

- Bookkeeper
- Milking Machine Service Salesman
- Salesperson
- Sales Clerk
- Salesman/Driver
- Dog Groomer
- Sprayer
- Dairy Tester
- Feed Mixer
- Feed Mixer Helper
- Grinder Operator
- Grain Dryer Operator
- Heavy Equipment Operator
- Grain Elevator Man
- Stores Laborer

## Forestry

- Tree Pruner-Planter
- Tree Climber
- Sprayer, Hand
- Sawmill Worker
- Tipple Man
- Logger
- Chaser

## Horticulture

- Floral Designer
- Bookkeeper
- Shipping Clerk
- Salesperson
- Tree Pruner
- Seed Grower
- Greenhouse Foreman
- Greenhouse Worker
- Nursery Crew Foreman
- Nursery Worker
- Vegetable Grower
- Vegetable Farm Hand
- Fruit Farm Foreman
- Berry Grower
- Berry Farm Hand
- Tree Pruner
- Picking Crew Foreman
- Garden Store Salesperson
- Landscape Gardener
- Park Caretaker
- Greenskeeper
- Landscape Worker
- Tree Surgeon
- Tree Sprayer
- Maintenance Mechanic Helper
- Florist Supply Salesman

## Agricultural Supplies/Services

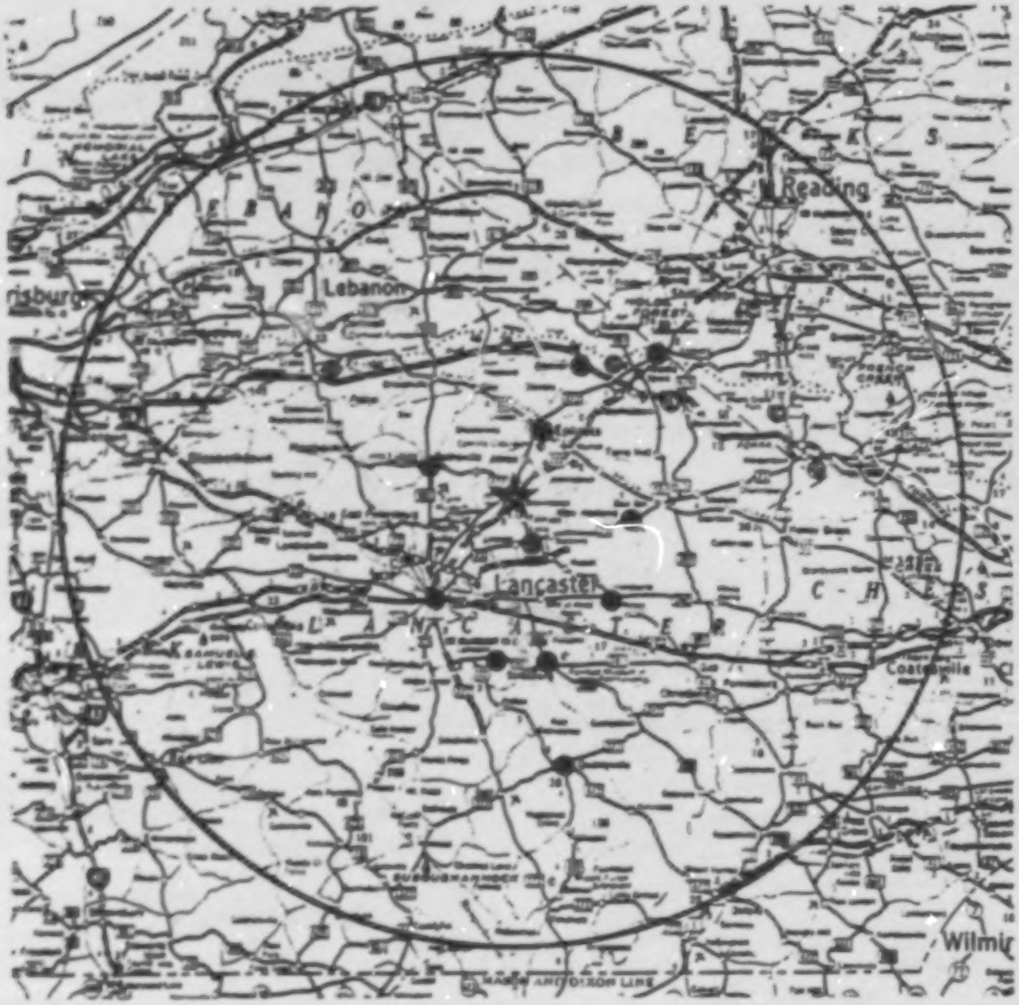
Bookkeeper
Milking Machine Service Salesman
Salesperson
Sales Clerk
Salesman/Driver
Dog Groomer
Sprayer
Dairy Tester
Feed Mixer
Feed Mixer Helper
Grinder Operator
Grain Dryer Operator
Heavy Equipment Operator
Grain Elevator Man
Stores Laborer

## Forestry

Tree Pruner-Planter
Tree Climber
Sprayer, Hand
Sawmill Worker
Tipple Man
Logger
Chaser

## Horticulture

Floral Designer
Bookkeeper
Shipping Clerk
Salesperson
Tree Pruner
Seed Grower
Greenhouse Foreman
Greenhouse Worker
Nursery Crew Foreman
Nursery Worker
Vegetable Grower
Vegetable Farm Hand
Fruit Farm Foreman
Berry Grower
Berry Farm Hand
Tree Pruner
Picking Crew Foreman
Garden Store Salesperson
Landscape Gardener
Park Caretaker
Greenskeeper
Landscape Worker
Tree Surgeon
Tree Sprayer
Maintenance Mechanic Helper
Florist Supply Salesman


Reading
Lebanon
Lancaster
Coatesville
Wilmi
risburg
LEBANON
BERKS
LANCASTER
CHESTER

Lancaster Co. AVTS-Brownstown: Job locations of 34 graduates

| | | | |
|---|---|---|---|
| Adamstown | 1 | Leola | 5 |
| Denver | 2 | Lititz | 1 |
| Ephrata | 7 | Millersville | 1 |
| Intercourse | 1 | New Holland | 1 |
| Lampeter | 1 | Quarryville | 2 |
| Lancaster | 11 | Strassburg | 1 |

Figure 2. Example of map marked to show locations of jobs of graduates and a circle formed by a 25-mile radius from school.

BEST COPY AVAILABLE

## II SURVEY OF AGRICULTURAL BUSINESSES

### Existing Programs

1. Mail copies of Form 3, p. 21, together with the list of job titles, Form 2, and a cover letter similar to the example, p. 19, to agricultural businesses within the map area enclosed by the line within which graduates are willing to travel to seek employment.* Prompt response may be stimulated by using colored paper, and by filling in the name and address blanks before mailing it to each person. The inclusion of a small gift, such as a tea bag or a stick of gum, with reference to it in the cover letter, has been found to result in higher response.

After the initial survey, the agricultural businesses should be surveyed every 2 to 3 years in order to have current projections on job openings.

2. Ten days later follow with a second mailing, marked SECOND REQUEST, to all non-respondants.

3. Twenty days after the first mailing, telephone all non-respondants and fill out the survey form for each.

(These techniques may yield more than a 60 percent response to the survey.)

4. Tabulate results on a blank survey form.

---

* Note-if furnished with a copy of this map, together with an appropriate request, the Pennsylvania Bureau of Employment Security may be able to provide a printout list of agricultural business addresses within the boundaries. Telephone directories, local Chambers of Commerce, Granges, Trade Organizations, and County Agent Offices may be other sources of addresses.

5. Using a blank Job Title form, p. 23, mark next to each job title the number of full-time openings estimated for the next 5 years. (Information on part time and seasonal openings may be useful in the cooperative work experience program.)

6. Compile a list of all the comments on ways to improve the program.

### New Programs

Follow the steps given under Existing Programs, except that:

a. The survey area should be one enclosed by a circle having a 25-mile radius with the school as the center point. (There are no data from graduates on the area within which they seek employment.)

b. Question 11, an evaluation of the performance of graduates, could be omitted from the form.

References:

A-1 Prepare a Community Survey. 1977. $4.00
A-2 Conduct a Community Survey. 1977. $2.50
G-10 Obtain Feedback about Your Vocational Program. 1978. $1.7
from: AAVIM, Engineering Center, University of Georgia, Athens, GA 30602.

5. Using a blank Job Title form, p. 23, mark next to each job title the number of full-time openings estimated for the next 5 years. (Information on part time and seasonal openings may be useful in the cooperative work experience program.)

6. Compile a list of all the comments on ways to improve the program.

### New Programs

Follow the steps given under *Existing Programs*, except that:

a. The survey area should be one enclosed by a circle having a 25-mile radius with the school as the center point. (There are no data from graduates on the area within which they seek employment.)

b. Question 11, an evaluation of the performance of graduates, could be omitted from the form.

References:

A-1 Prepare a Community Survey. 1977. $4.00
A-2 Conduct a Community Survey. 1977. $2.50
G-10 Obtain Feedback about Your Vocational Program. 1978. $1.70
from: AAVIM, Engineering Center, University of Georgia,
Athens, GA 30602.

Cover Letter Example

(SCHOOL LETTERHEAD)

Dear ____________________:

The teachers, administrators, and Board of School Directors of ______________________________ School are planning to modify the (start a) program in vocational agriculture that will prepare students appropriately for filling job openings in agricultural businesses in the community served by this school.

In order to do this, we need more information about prospective job openings. Can you please take a few moments to fill out the enclosed form? Please enjoy a cup of tea while doing this. The chances are pretty good that the form will be filled before your cup is empty.

1. Please return it in the enclosed envelope by __________________.
   (date)
2. Please feel free to write helpful comments directly on the form.

Your individual response will remain confidential, and only summary data from the survey will be used in planning (improvements in) the program. If you have any questions, please feel free to call me at
_________________________ between ________A.M. and _________P.M.
(tel. no.)

Sincerely yours,

______________________________
Vocational Agriculture Teacher

Form 3

## JOB OPPORTUNITY SURVEY OF AGRICULTURAL BUSINESSES

1. Name of Company____________________

2. Address____________________

____________________Zip Code__________

3. Your name____________________

4. Your position with company____________________

5. Your business phone number____________________

6. Type of Agricultural Business Operation (Please check one; circle sub-type)

| | Check | Circle |
|---|---|---|
| a. | ___Agricultural Mechanics | Ag. Machinery Sales Ag. Machinery Service |
| b. | ___Production Agriculture | Livestock Poultry Dairy Field Crops |
| c. | ___Ag. Products, Processing, Sales | Cannery Slaughterhouse Dairy |
| d. | ___Renewable Natural Resources | Conservation Recreation |
| e. | ___Ag. Supplies/Services | Feed Mill Farm Supplies |
| f. | ___Forestry | Sawmill Logging |
| g. | ___Horticulture | Florist Flower Grower Nursery<br>Garden Center Landscape Turf<br>Arborist Vegetables Fruit Mushrooms |

7. Is there a shortage of trained or experienced workers in your type of agricultural business operation?

a. ___Yes b. ___No

8. Main agricultural function of company (check one or two)

a. ___Sales

b. ___Service

c. ___Manufacturing

d. ___Processing

e. ___Production

f. ___Other:____________________

9. Number of employees:

a. ____Full time
b. ____Part time
c. ____Seasonal
d. ____Total

10. What is the total number of employees in each job hired as (a) full time, (b) part time, and (c) seasonal workers?

| Specific Job Title* | Current Employees | | | Estimated number of new employees next 5 years | | |
|---|---|---|---|---|---|---|
| | Full time | Part time | Seasonal | Full time | Part time | Seasonal |
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |
| 6. | | | | | | |
| 7. | | | | | | |
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |
| 6. | | | | | | |
| 7. | | | | | | |

11. If you have employed graduates of a vocational agriculture program who had prepared for employment in your type of agricultural business, please rate how they were prepared:

_____poorly _____mediocre _____well prepared

Please comment on specific weaknesses and strengths:

*You may wish to use the attached list of Job Titles as a guide.

9. Number of employees:

a. ____Full time
b. ____Part time
c. ____Seasonal
d. ____Total

10. What is the total number of employees in each job hired as (a) full time, (b) part time, and (c) seasonal workers?

| | Current Employees | | | Estimated number of new employees next 5 years | | |
|---|---|---|---|---|---|---|
| Specific Job Title* | Full time | Part time | Seasonal | Full time | Part time | Seasonal |
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |
| 6. | | | | | | |
| 7. | | | | | | |
| 1. | | | | | | |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |
| 6. | | | | | | |
| 7. | | | | | | |

11. If you have employed graduates of a vocational agriculture program who had prepared for employment in your type of agricultural business, please rate how they were prepared:

_____poorly        _____mediocre        _____well prepared

Please comment on specific weaknesses and strengths:

*You may wish to use the attached list of Job Titles as a guide.

Form 2

# Job Titles for Entry-Level Agricultural Occupations

## Agricultural Mechanics

- Bookkeeper
- Service Clerk
- Parts Salesperson
- Tractor Mechanic
- Tractor Mechanic Helper
- Farm Equipment Mechanic Apprentice
- Farm Machinery Set Up Man
- Maintenance Mechanic
- Maintenance Mechanic Repairman
- Maintenance Mechanic Helper
- Lawn Mower Repairman
- Welder
- Stores Laborer

## Production Agriculture

- Crew Leader
- Stableman
- Cash Grain Farmer
- Tobacco Grower
- Tobacco Farm Hand
- Hog Farmer
- Farm Manager
- Tenant Farmer
- Contract Farmer
- Share Cropper
- Airplane Pilot Helper
- Dairy Farmer
- Dairy Farm Hand
- Milking Machine Operator
- Poultry Foreman
- Poultryman
- Agricultural Aide
- Poultry Farm Hand
- Hatchery Laborer
- Swine Herdsman
- Horse Raiser
- Sheep Rancher
- Livestock Farm Hand
- Animal Breeder
- Game Farm Helper
- Animal Caretaker
- General Farmer
- General Farm Hand
- Sprayer
- Heavy Equipment Operator
- Farm Foreman

## Agricultural Products, Processing and Marketing

- Poultry Grader
- Bookkeeper
- Shipping Clerk
- Feedstuff Salesman
- Driver Salesman
- Agricultural Produce Packer
- Grader Man
- Butcher
- Meat Dresser
- Poultry Dresser
- Poultry Dresser Worker
- Poultry Hanger
- Meat Trimmer
- Egg Grader
- Production Helper, Fruits and Vegetables
- Dairy Processing Equipment Operator
- Dairy Helper
- Laborer
- Milk Driver

## Renewable Natural Resources

- Game Farm Helper
- Gamekeeper
- Hunting and Fishing Guide

## Agricultural Supplies/Services

Bookkeeper
Milking Machine Service Salesman
Salesperson
Sales Clerk
Salesman Driver
Dog Groomer
Sprayer
Dairy Tester
Feed Mixer
Feed Mixer Helper
Grinder Operator
Grain Dryer Operator
Heavy Equipment Operator
Grain Elevator Man
Stores Laborer

## Forestry

Tree Pruner-Planter
Tree Climber
Sprayer, Hand
Sawmill Worker
Tipple Man
Logger
Chaser

## Horticulture

Floral Designer
Bookkeeper
Shipping Clerk
Salesperson
Tree Pruner
Seed Grower
Greenhouse Foreman
Greenhouse Worker
Nursery Crew Foreman
Nursery Worker
Vegetable Grower
Vegetable Farm Hand
Fruit Farm Foreman
Berry Grower
Berry Farm Hand
Tree Pruner
Picking Crew Foreman
Garden Store Salesperson
Landscape Gardener
Park Caretaker
Greenskeeper
Landscape Worker
Tree Surgeon
Tree Sprayer
Maintenance Mechanic Helper
Florist Supply Salesman

## Agricultural Supplies/Services

Bookkeeper
Milking Machine Service Salesman
Salesperson
Sales Clerk
Salesman Driver
Dog Groomer
Sprayer
Dairy Tester

Feed Mixer
Feed Mixer Helper
Grinder Operator
Grain Dryer Operator
Heavy Equipment Operator
Grain Elevator Man
Stores Laborer

## Forestry

Tree Pruner-Planter
Tree Climber
Sprayer, Hand
Sawmill Worker

Tipple Man
Logger
Chaser

## Horticulture

Floral Designer
Bookkeeper
Shipping Clerk
Salesperson
Tree Pruner
Seed Grower
Greenhouse Foreman
Greenhouse Worker
Nursery Crew Foreman
Nursery Worker
Vegetable Grower
Vegetable Farm Hand
Fruit Farm Foreman

Berry Grower
Berry Farm Hand
Tree Pruner
Picking Crew Foreman
Garden Store Salesperson
Landscape Gardener
Park Caretaker
Greenskeeper
Landscape Worker
Tree Surgeon
Tree Sprayer
Maintenance Mechanic Helper
Florist Supply Salesman

## III ASSEMBLY OF DATA

### Existing Programs

1. Under each agricultural business area (instructional field) in Form 4, p. 27, "Projected Job Openings," list the job titles, total jobs, and 5-year projections revealed by the business survey.

2. Compute the number of annual job openings for each job title by adding 10 percent of the filled positions (annual attrition in most businesses), to 1/5 of the 5-year projected new openings.

3. Total the annual openings for each of the agricultural business areas. If this total is 20 or more (average vocational agriculture class size), there is sufficient need to justify a program for that instructional field (see example, p. 33).

4. Compare the results of this survey with the previous one, noting any increases or decreases in openings for each job.

5. For each job title, list the employer comments on the performance of graduates on Form 5, p. 35 (see example, p. 37).

### New Programs

Follow the above steps, but omit step 4, and possibly step 5.

Reference:

A-3 Report the Findings of a Community Survey. 1977. $3.50 AAVIM, Engineering Center, University of Georgia, Athens, GA 30602.

Form 4

## PROJECTED JOB OPENINGS

| Job Titles by Agricultural Business Area | Total Current Jobs | New Jobs 5-Year Projection | Annual Openings (10% of total jobs, plus 1/5 of 5-Year Projections) | Changes from Previous Survey of_____ (year) |
|---|---|---|---|---|
| Agricultural Mechanics | | | | |
| Production Agriculture | | | | |

PROJECTED JOB OPENINGS, cont'd

| Job Titles by Agricultural Business Area | Total Current Jobs | New Jobs 5-Year Projection | Annual Openings (10% of total jobs, plus 1/5 of 5-Year Projections) | Change from Previous Survey of ______ (year) |
|---|---|---|---|---|
| Ag. Products, Processing, Marketing | | | | |
| Renewable Natural Resources | | | | |
| Ag. Supplies/Services | | | | |

PROJECTED JOB OPENINGS, cont'd

| Job Titles by Agricultural Business Area | Total Current Jobs | New Jobs 5-Year Projection | Annual Openings (10% of total jobs, plus 1/5 of 5-Year Projections) | Change from Previous Survey of ______ (year) |
|---|---|---|---|---|
| Forestry | | | | |
| Horticulture | | | | |

(Form 4)

## Example

## PROJECTED JOB OPENINGS

| Job Titles by Agricultural Business Area | Total Current Jobs | New Jobs 5-Year Projection | Annual Openings (10% of total jobs, plus 1/5 of 5-Year Projections) | Changes from Previous Survey of 1977 (year) |
|---|---|---|---|---|
| **Agricultural Mechanics** | | | | |
| *Service Clerk* | 16 | 4 | 2 (2.4) | |
| *Parts Salesperson* | 18 | 4 | 3 (2.6) | |
| *Tractor Mechanic* | 8 | 2 | 1 (1.2) | |
| *Trac. Mech. Helper* | 14 | 2 | 2 (1.8) | |
| *Farm Eqpt. Mechanic* | 10 | 1 | 1 (1.2) | |
| *Assembly Repairman* | 6 | 2 | 1 (1.0) | |
| *Maint. Mech. Helper* | 12 | 4 | 2 (2.0) | +2 |
| *Lawn Mower Repairman* | 16 | 8 | 3 (3.2) | +2 |
| *Welder* | 8 | 1 | 1 (1.0) | |
| *Stores Laborer* | 20 | 2 | 2 (2.4) | |
| | 128 | 30 | 18 18.8 | +4 |
| **Production Agriculture** | | | | |

Form 5

## EMPLOYER COMMENTS ON PERFORMANCE OF GRADUATES

| Job Title | Comments |
|---|---|
| | |

**Example**

## EMPLOYER COMMENTS ON PERFORMANCE OF GRADUATES

| Job Title | Comments |
|---|---|
| Tractor Mechanic Helper | Good workers, but weak in hydraulics; handwriting of one is terrible! |

## IV REVISE/PLAN PROGRAMS

Existing Programs

1. Compare the job titles of projected job openings, Form 4, p. 27, with those in the existing instructional program, making appropriate additions and deletions in a revised list.

2. Under each new job title in the revised list, give the duty level competencies shown in Table 1, page 59, "Duty Level Competencies of Entry-Level Occupations within Agricultural/Agribusiness Instructional Areas."

3. For each job title, fill in one duty level competency per sheet on Form 6, p. 43. On each sheet list the task level competencies to be taught (several sheets may be needed). See references for competency list. An example for "Greenskeeper" is given on p. 45.

The following definitions from page 3 of Handbook for Analyzing Jobs, 1972, U.S. Dept. Labor, clarify the terms involved:

Job: a group of positions identical in major tasks and sufficiently alike to be covered by a single "job analysis." (One educational program will prepare many workers for entry employment.)

Position: a collection of tasks making up the total work assignment of a single worker. (There are as many positions as there are workers in the country.)

Task: one or more elements of distinctive activities in the necessary steps in performance of work by a worker. (A task is credited whenever human effort, mental or physical, is exerted to accomplish a specific purpose.)

Element: the smallest step into which it is practicable to subdivide any work activity without analyzing separate motions, movements, and mental processes.

4. Develop a Lesson Plan for each of the tasks listed in 3. These may take the form of task sheets similar to the examples given with this step, pages 47 through 57. Activity-oriented lesson plans are often highly successful in vocational programs.

5. Develop a Lesson Plan for each of the socialization skills needed by all vocational agriculture students. Twelve such skills have been identified (Illinois Department of Adult, Vocational and Technical Education): (1) Working in an organization, (2) Understanding self and others, (3) Motivation for work, (4) Interpersonal relations, (5) On-the-job communication, (6) Using creativity on the job, (7) Authority and responsibility, (8) Problem solving, (9) Coping with organizational conflict, (10) Coping with organizational change, (11) Leadership, and (12) Adapting and planning for the future. The FFA and work experience are excellent vehicles for teaching many of these.

6. Assemble the above competency materials into a program of time frames appropriate for the number of years of instruction available within the curriculum of your school.

7. If changes in the program of instruction require changes in facilities, specific recommendations, drawn up in consultation with the advisory committee, should be given to the school administration.

8. If needed, new equipment, or repair and replacement of used equipment should be recommended to the school administration.

9. Lists of supplies and materials needed for the program should be prepared.

New Programs

Follow all of the steps above except that no revision is involved.

4. Develop a Lesson Plan for each of the tasks listed in 3. These may take the form of task sheets similar to the examples given with this step, pages 47 through 57. Activity-oriented lesson plans are often highly successful in vocational programs.

5. Develop a Lesson Plan for each of the socialization skills needed by all vocational agriculture students. Twelve such skills have been identified (Illinois Department of Adult, Vocational and Technical Education): (1) Working in an organization, (2) Understanding self and others, (3) Motivation for work, (4) Interpersonal relations, (5) On-the-job communication, (6) Using creativity on the job, (7) Authority and responsibility, (8) Problem solving, (9) Coping with organizational conflict, (10) Coping with organizational change, (11) Leadership, and (12) Adapting and planning for the future. The FFA and work experience are excellent vehicles for teaching many of these.

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8. If needed, new equipment, or repair and replacement of used equipment should be recommended to the school administration.

9. Lists of supplies and materials needed for the program should be prepared.

New Programs

Follow all of the steps above except that no revision is involved.

General References:

A-6 Develop Program Goals and Objectives. 1977. $2.10
A-7 Conduct an Occupational Analysis. 1977. $4.80
A-8 Develop a Course of Study. 1977. $3.00
A-9 Develop Long-Range Porgram Plans. 1977. $2.10
B-1 Determine Needs and Interests of Students. 1977. $3.50
B-2 Write Student Performance Objectives. 1977. $3.50
B-3 Develop a Unit of Instruction. 1977. $3.00
B-4 Develop a Lesson Plan. 1977. $2.00
B-5 Select Student Instructional Materials. 1977. $2.00
B-6 Prepare Teacher-Made Instructional Materials. 1977. $2.00

From: AAVIM, Engineering Center, University of Georgia,
Athens, GA 30609.

Competencies References:

Task level competency lists are available from V'TECHS, Vocational-Technical Education Consortium of States, Southern Association of Colleges and Schools, 795 Peachtree Street, Atlanta, GA 30308, in the following publications under the general title "A Catalogue of Performance Objectives, Criterion-Referenced Measures and Performance Guides" for:

Ag. Parts Clerk
Ag. Production*
Agrichemical*
Bookkeeper*
Cashier/Checker
Cattle Rancher*
Cotton Gin Operator
Farm Equipment Mechanic*
Farm Equipment Operator
Farm Management*
Floral Sales
Floriculture
Gardening, Groundskeeping
Landscaping
Nurseryman
Retail Sales*
Small Engine Repair
Timber Harvesting
Tractor Mechanic
Turf Management
Welder
Veterinary Assistant*

* Being written

Task level competency lists for occupations in the seven instructional areas of vocational agriculture are also available in "National Agricultural Occupations Competency Study," 1978. Ref. No. 1886, Stock No. 017-080-018217, for sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. $6.75.

Form 6

## TASK LEVEL COMPETENCIES

Job Title__________________________________D.O.T. No.____________

Duty Level Competency__________________________________________

______________________________________________________________

Tasks:

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

15.

16.

17.

18.

19.

20.

21.

22.

23.

(Form 6)

Example

## TASK COMPETENCY LIST

Job Title Greenskeeper D.O.T. NO. 407.883

Duty Level Competency Maintains golf course greens

Tasks:

1. Takes soil samples
2. Operates greens mower
3. Operates sandtrap rake
4. Operates aerifier
5. Changes holes
6. Waters green
7. Applies fungicides
8. Applies insecticides
9. Operates verticutting machine
10. Operates power sweeper
11. Examines turf for disorders
12. Lays sod
13. Prepares seedbed
14. Applies fertilizer
15. Sows seed
16. Applies herbicides
17. Services and ajusts greenskeeping equipment
18. Trims sandtrap edges
19. Identifies weeds in green
20. Repairs divots
21. Applies topdressing to greens
22. Dethatches greens
23. Syringes greens on hot days

## LESSON PLANS (TASK SHEETS)

Job Title________________________________D.O.T. No.________________

Duty-Level Competency______________________________________________

Name of Task

Performance Objective Statement

Introduction

Materials and Tools Needed

Prior Knowledge

Prior Skills

Illustration

Sequenced Elements-Activities

Evaluation

References

(examples on following pages)

## Examples

## Ornamental Horticulture Task Sheet

Repot 5 kinds of plants

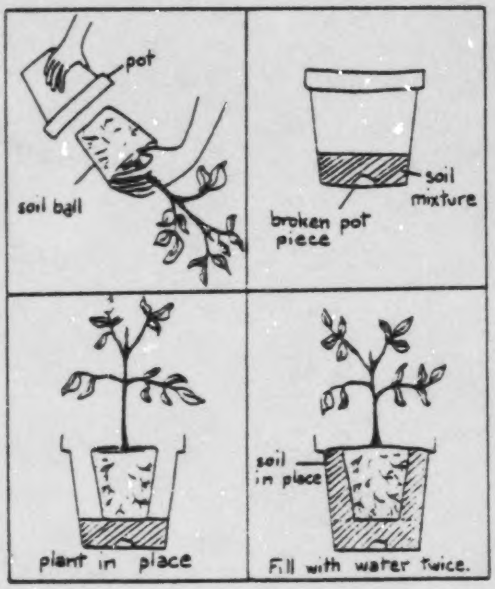
Performance Objective: Given a recommended soil mixture, several potted plants and containers more than 1" greater in diameter than those in which the plants are growing, the student will remove the plant from the old pot and will replant it in a larger sized pot. Performance is evaluated by the teacher using the guide on the back of this sheet.

### Introduction:

Customers sometimes purchase a plant and ask to have it replanted in a different container. Once in a while, a customer may bring in a plant that is too large for its container and ask that it be planted in a larger one.

### Materials and Tools Needed:

Plant containers with drain holes
Soil mixture-1 part soil
1 part medium sand
1 part peat
Water
Potted Plants
Pieces of broken pot



### Knowledge:

Recognition of commonly used potted plants

### Skills:

Perform volume measurement

## Task Statement and Evaluation

| | Task | Possible | Earned |
|---|---|---|---|
| 1. | Thirty minutes before repotting is to be done, thoroughly water the plants to be repotted. This assures that the soil ball will hold together when the pot is removed. | 10 | |
| 2. | Place several pieces of broken pot over the drain hole in the selected container. They should form a hump to keep the soil from plugging the drain hole. | 10 | |
| 3. | Add enough steam-treated soil mixture so that the soil surface of the original soil ball will be positioned 1/2 inch below the pot rim (allow for about 1/4" settling). | 10 | |
| 4. | To remove the plant from the pot, place one hand on the surface, palm downward, with the stem of the plant between the fingers. Using both hands, turn the plant upside down and give the pot rim a sharp rap on a table edge. The soil ball should fall into your palm. Set aside the old pot. | 10 | |
| 5. | Turn the plant right side up and place it in the center of the prepared new pot. Press it gently into the new soil. If the old soil ball surface is higher than 1/2 inch below the soil surface, lift out the plant, remove some soil, and try it again. If the plant was too deep in the original trial, remove it, add some soil, and check again. | 10 | |
| 6. | Once the plant is in proper position, add soil to fill the open space between the soil ball and the pot wall. Firm the soil with the fingers, adding more if needed so that the fill is 1/2 below the pot rim. | 10 | |
| 7. | Fill the space at the top of the pot with water. When it has disappeared, fill it a second time. If water has not begun to drain from the hole, fill it a third time. | 10 | |
| 8. | Repeat this procedure with additional plants provided by your instructor. | 20 | |
| 9. | Put the repotted plants in a place designated by your instructor. Clean the work area, putting all equipment and supplies in their storage places. | 10 | |
| | TOTAL | 100 | |

1977
Department of Agricultural Education
The Pennsylvania State University
University Park, PA 16802

## Task Statement and Evaluation

| | | Possible | Earned |
|---|---|---|---|
| 1. | Thirty minutes before repotting is to be done, thoroughly water the plants to be repotted. This assures that the soil ball will hold together when the pot is removed. | 10 | |
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| 8. | Repeat this procedure with additional plants provided by your instructor. | 20 | |
| 9. | Put the repotted plants in a place designated by your instructor. Clean the work area, putting all equipment and supplies in their storage places. | 10 | |
| | TOTAL | 100 | |

1977
Department of Agricultural Education
The Pennsylvania State University
University Park, PA 16802

T-1
(LC-3)
(LM-2)
(NP-16)
Soil Sampling

TURFGRASS

## Ornamental Horticulture Task Sheet

**Performance Objective**: Given a soil tube, auger or trowel, a clean pail, and a soil sampling information sheet, the student takes a soil sample, prepares it for mailing, and correctly fills out the information sheet. Performance is evaluated by the teacher using the guide on the back of this sheet.

**Introduction**: Soil sampling is a standard procedure used by greenskeepers, landscape contractors, and nurserymen before planting an area with turfgrass or trees and shrubs. It is repeated annually in the maintenance of these plantings. Soil samples are usually taken in the fall.

**Materials and Tools Needed**:

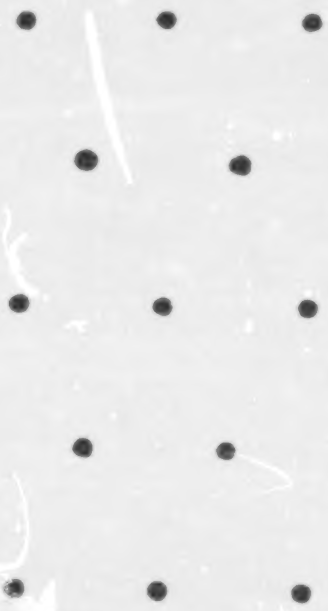
Clean pail
Soil auger
Trowel
Small spade
Several sheets of newspaper
Soil sample information sheet
Mailing container
Pencil

**Knowledge**:

Why soil must be tested

**Skills**:

How to use hand tools
Ability to write clearly



Places in the field to get the soil sample.

| | Task Statements and Evaluation | Points Possible | Earned |
|---|---|---|---|
| 1. | Using a soil auger, trowel, or small spade, take thin slices of soil to a depth of 6 inches from 12 or more locations in the area to be planted, and place them in a clean pail. | 10 | |
| 2. | If the area to be planted varies in kind of soil, previous crop, or previous fertilizer applications, make up a separate soil sample for each area. | 15 | |
| 3. | Slice off the top 1/4 inch from each sample and discard it. | 15 | |
| 4. | Thoroughly mix the 12 or more samples from one area to make up a single sample to be tested. Spread it on clean newspaper to dry overnight. | 15 | |
| 5. | Fill out the soil sample information sheet for each composite sample and place it with the soil sample while it dries. | 15 | |
| 6. | After the soil sample has dried overnight, place soil in the mailing container. | 15 | |
| 7. | Fill out the address on the mailing container and attach the filled-out soil sample information sheet (be sure that the sheet goes with its matching soil sample). | 15 | |
| | Total | 100 | |

Note: The results of the soil test are returned to the sender, together with recommendations for the particular plant being grown. The recommendations should be carefully followed so that the right kinds and amounts of fertilizer are applied for good growth of the plants.

Samuel J. Yant
1973
Department of Agricultural Education
The Pennsylvania State University
University Park, PA 16802

## Task Statements and Evaluation

| | Points Possible | Earned |
|---|---|---|
| 1. Using a soil auger, trowel, or small spade, take thin slices of soil to a depth of 6 inches from 12 or more locations in the area to be planted, and place them in a clean pail. | 10 | |
| 2. If the area to be planted varies in kind of soil, previous crop, or previous fertilizer applications, make up a separate soil sample for each area. | 15 | |
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| 5. Fill out the soil sample information sheet for each composite sample and place it with the soil sample while it dries. | 15 | |
| 6. After the soil sample has dried overnight, place soil in the mailing container. | 15 | |
| 7. Fill out the address on the mailing container and attach the filled-out soil sample information sheet (be sure that the sheet goes with its matching soil sample). | 15 | |
| Total | 100 | |

Note: The results of the soil test are returned to the sender, together with recommendations for the particular plant being grown. The recommendations should be carefully followed so that the right kinds and amounts of fertilizer are applied for good growth of the plants.

Samuel J. Yant
1973
Department of Agricultural Education
The Pennsylvania State University
University Park, PA 16802

## Ornamental Horticulture Task Sheet

## Mowing Lawns

Performance Objective: With a lawn mower the student will mow a lawn so that it will have an attractive appearance when completed. Performance is evaluated by teacher using guide on the back of this sheet.

### Introduction:

Lawns are mowed from spring throughout the summer months and into fall. The lawn should be mowed frequently enough so that about 1/2' of growth is cut off with each mowing. In spring and fall, mowing may be required every 3-4 days; in mid summer, every 7 days. Reel or rotary mowers may be used.

### Materials and Tools Needed:

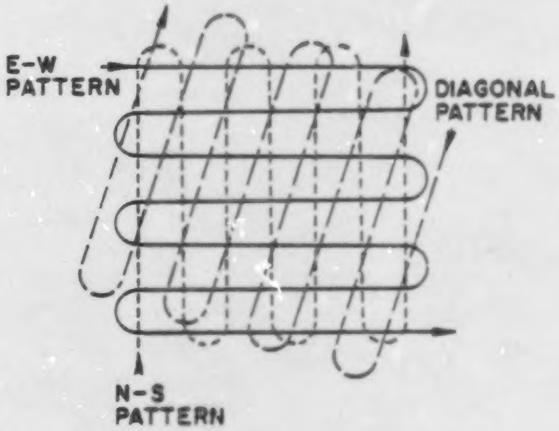
Lawn mower
Grass catcher

### Knowledge:

Operation of small gas engines
Turf grass management
Safe operation of lawn mower

### Skills:

Care and maintenance of mower



THREE MOWING PATTERNS

| | Task Statement and Evaluation | Possible | Earned |
|---|---|---|---|
| 1. | With the aid of the instructor, adjust the mower to the appropriate mowing height for the lawn (1 1/2" for Kentucky Bluegrass and Red Fescue; 2" for Tall Fescue). | 15 | |
| 2. | Service the mower. | 15 | |
| 3. | Mow the lawn according to one of the three patterns indicated (see drawing). | 15 | |
| 4. | With four-wheel push mowers, push down on the handles to raise the front wheels off the ground while turning. | 15 | |
| 5. | Mow successive swaths overlapping wheel marks to avoid skips. | 15 | |
| 6. | Empty the grass catcher as necessary | 10 | |
| 7. | Clear the area and put equipment in storage. | 15 | |
| | TOTAL | 100 | |

NOTE: A lawn is not mowed while wet. Wet grass clippings may clog in the mower. Wet machine parts rust easily.

The mower must be sharp or the grass may be damaged and the lawn will have a ragged, rough appearance.

For an extra-smooth looking lawn, double mow, using an alternate mowing pattern the second time.

Clippings are removed to aid in control of thatch.

Ronald J. Althoff
1977
Department of Agricultural Education
The Pennsylvania State University
University Park, PA 16802

| Task Statement and Evaluation | Possible | Earned |
|---|---|---|
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| 2. Service the mower. | 15 | |
| 3. Mow the lawn according to one of the three patterns indicated (see drawing). | 15 | |
| 4. With four-wheel push mowers, push down on the handles to raise the front wheels off the ground while turning. | 15 | |
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## Ornamental Horticulture Task Sheet

### Sharpening a Knife

Performance Objective: With a florist, nursery, or grafting knife, the student will sharpen the blade on an oil stone and a leather strop to a razor cutting edge in a safe, careful manner. Performance is evaluated by the teacher using the guide on the back of this sheet.

### Introduction:

A sharp knife is important in working with plant material so that all cuts are made in a clean and smooth manner without crushing delicate plant parts. A dull knife is more likely to slip while being used than a sharp one, so injuries are more likely to occur with a dull knife.

The knife blade is sharpened at a 20 degree angle, with all nicks carefully removed.

### Materials and Tools Needed:

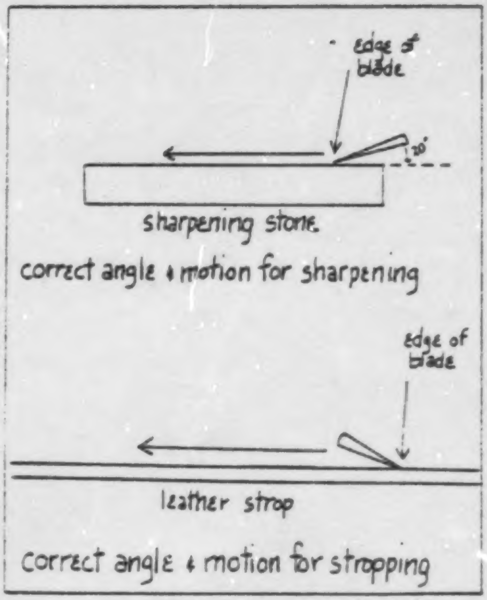
Florist, nursery, or grafting knife
Oil sharpening stone
Filled oil can
Wiping cloth
Leather razor strop

### Knowledge:

Safe use of a knife

### Skills:

Manual dexterity


edge of blade
20°
sharpening stone
correct angle + motion for sharpening
edge of blade
leather strop
correct angle + motion for stropping

| | Task Statement and Evaluation | Possible | Earned |
|---|---|---|---|
| 1. | Assemble all the needed materials: knife, oil stone, filled oil can, wiping cloth. | 10 | |
| 2. | Under the direct supervision of the instructor, carefully examine the blade to find any nicks. If it is nicked, use the "coarse" side of the stone to remove them. Put a few drops of oil on the stone. Hold the blade against the stone near one end, at about a 20° angle, cutting edge in the direction of motion. Move it evenly and smoothly the full length of the stone. Lift the blade and return it to the original position. Repeat 5 to 10 times. Turn the blade over in order to stroke the other side 5 to 10 times. Repeat, alternately stroking each side of the blade until all the nicks are removed. | 20 | |
| 3. | After the nicks are removed, (or do this at once if there are no nicks) turn the stone to the "fine" side and repeat the strokes as explained in step 2. | 20. | |
| 4. | Test the sharpness by attempting to cut a newspaper edge with the blade. Check the tip, middle, and shank parts of the blade. Often only part of a blade may be sharp. Continue sharpening and testing until the entire cutting edge is sharp. | 20 | |
| 5. | When the entire edge is sharp, the next step is to finish (remove burrs) with a leather razor strop. No oil is used. The motions are exactly the same as for using a stone, except that in this case the back of the blade is in the direction of the motion (otherwise, the strop will be cut!) This stropping results in a very fine edge. | 20 | |
| 6. | Clean up all tools and equipment and store them. | 10 | |

*Properly used, a stone will last many years; a circular motion in a small space of the stone will soon develop a narrow groove in the stone, ruining it.

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|---|---|---|
| 1. Assemble all the needed materials: knife, oil stone, filled oil can, wiping cloth. | 10 | |
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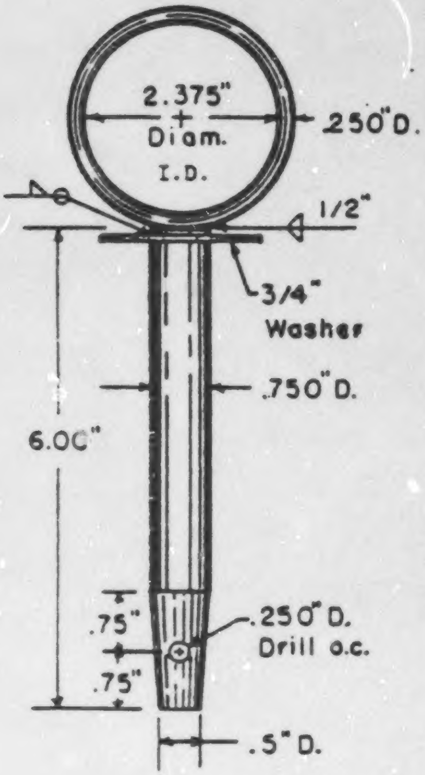
DEPARTMENT OF AGRICULTURAL EDUCATION
THE PENNSYLVANIA STATE UNIVERSITY
TAH 266

In cooperation with
V. Forrest Bear
University of Minnesota

## DRAWBAR HITCH PIN



Bill of Material

1 - 1/4" x 8" M1020 hot rolled round
1 - 3/4" flat washer
1 - 3/4" x 6" round, C1042 cold rolled or C1045 hot rolled

Name: ____________________

Date: ____________________

Grade: ______________

Construction Procedure:

1. Determine length of handle; I. D. + Thickness x 3.14
2. Shape handle around 2" pipe, use vise as bending aid
3. Cut pin to length
4. Drill hole and shape end of pin
5. Weld washer to pin
6. Place handle on pin and weld
7. Remove slag and clean with steel brush

(Ability to ...........
Construction teaches (Understanding of .............

1. U. Difference between low and medium carbon steel
2. U. Difference between hot and cold rolled steel
3. A. Determine length of handle
4. A. Measure distances
5. U. Correct hacksaw blade to select
6. A. Use the hacksaw
7. U. Need to center punch before drilling
8. A. Use center punch
9. U. Need to secure metal before drilling
10. A. Secure metal in drill vise
11. U. Need for correct drill speed
12. A. Adjust and use drill press
13. U. Correct grinding wheels and bolts
14. A. Adjust tool rests on grinders
15. A. Grind pin end
16. U. Correct electrode selection
17. A. Weld on handle and washer

Evaluation Score Sheet:

| | Item | Points Possible | Points Earned |
|---|---|---|---|
| 1. | Length of pin | 5 | ______ |
| 2. | Tapered area smooth | 10 | ______ |
| 3. | Washer square to pin | 10 | ______ |
| 4. | Washer spaced correctly | 10 | ______ |
| 5. | Weld on washer | 15 | ______ |
| 6. | Round handle | 10 | ______ |
| 7. | Handle centered | 10 | ______ |
| 8. | Weld on handle | 15 | ______ |
| 9. | Hole centered | 5 | ______ |
| 10. | Attitude and work habits | 10 | ______ |
| | Total Points | | ______ |

## Table 1. DUTY LEVEL COMPENTENCIES OF ENTRY LEVEL OCCUPATIONS WITHIN AGRICULTURAL/AGRIBUSINESS INSTRUCTIONAL AREAS

### AGRICULTURAL MECHANICS

| D.O.T. No. * | | Occupation |
|---|---|---|
| 210.388 | Bookkeeper | (general bookkeeper) |
| | Duties: | Keeps records of financial transactions of agricultural machinery sales and service establishments; works under a supervisor or manager. |
| 243.368 | Service Clerk | (service desk clerk; service order clerk; repair service clerk) |
| | Duties: | Receives customers' requests for service on articles or utilities purchased from wholesale or retail agricultural machinery establishment; works under a supervisor or manager. |
| 289.358 | Parts Salesperson | |
| | Duties: | Sells spare and replaceable parts and equipment from behind counter in agency, repair shop, or parts store of an agricultural machinery sales supervisor or manager. |
| 620.281 | Tractor Mechanic | |
| | Duties: | Diagnoses mechanical failure and repairs tractors and tractor components according to manuals, factory specifications, and knowledge of engine performance using hand tools, power tools, and testing instruments; employed in an agricultural machinery sales and service business; works under a supervisor; may be a foreman. |
| 620.884 | Tractor Mechanic Helper | |
| | Duties: | Assists tractor mechanic in repairing tractors and tractor components using hand tools in an agricultural machinery sales and service business; works under a foreman. |
| 624.281 | Farm Equipment Mechanic I | (farm mechanic) |
| | Farm Equipment Mechanic II | (farm mechanic; farm field equipment maintenance mechanic) |
| | Farm Equipment Mechanic Apprentice | |

*Dictionary of Occupational Titles (being revised)

| D.O.T. No. | Occupation |
|---|---|
| 624.281<br>(Cont'd) | Assembly Repairman (assembly mechanic)<br>Duties: Maintains, repairs, adjusts, services, and overhauls farm machinery, vehicles, and equipment with the use of hand and power tools. |
| 624.381 | Farm Machinery Set Up Man (set up man)<br>Duties: Uncrates and assembles farm machinery for use in field; adjusts machinery according to specifications with hand tools; lubricates moving parts; may deliver machinery to purchasers. |
| 629.281 | Maintenance Mechanic (machine repairman)<br>Dairy Equipment Repairman<br>Duties: Inspects, adjusts, and repairs equipment in grain and feed mills and/or dairy machinery and equipment with the use of hand tools, power tools, and measuring instruments; works under a foreman. |
| 638.281 | Maintenance Mechanic II (machine adjuster; machine repairman; repair mechanic)<br>Duties: Repairs and maintains (in accordance with diagrams, sketches, operation manuals, and manufacturer's specifications) machinery and mechanical equipment, such as cranes, pumps, engines, motors, production machines, using hand tools, power tools, and precision measuring and testing instruments; works for an agricultural machinery sales and service business; may work under a foreman or supervisor. |
| 638.884 | Maintenance Mechanic Helper (mechanical handyman helper; repair helper)<br>Duties: Assists maintenance mechanic II in repairing and maintaining machinery and mechanical equipment in an agricultural machinery sales and service business; works under a foreman. |
| 639.884 | Lawn Mower Repairman<br>Duties: Services and repairs gasoline, electric, and hand and power tools; may work for a garden center or agricultural machinery sales and service business; works under a foreman or supervisor. |

| D.O.T. No. | Occupation |
|---|---|
| 812.884 | Welder; Repair (combination welder)<br>Duties: Welds metal parts together according to layouts, blueprints, or work orders using both gas welding and brazing and any combination of arc welding processes; may work in a farm machinery sales and service business; under a foreman or supervisor; or may work independently under contract. |
| 922. 887 | Stores Laborer (stock boy; warehouseman)<br>Duties: Performs any combination of tasks to receive, store, ship, and distribute materials, tools, equipment, and products within an agricultural machinery sales and service business; works under a foreman or supervisor. |

## PRODUCTION AGRICULTURE

| D.O.T. No. | Occupation |
|---|---|
| 180.168 | Group Leader (crew boss; crew leader; row boss)<br>Duties: Coordinates activities of crew of farm hands engaged in planting, cultivating, and harvesting diversified crops. |
| 356.874 | Stableman (barn hand, feed man)<br>Duties: Feeds, waters, cleans and may groom and give special treatment to horses; works under a foreman, supervisor, or manager. |
| 401.181 | Cash Grain Farmer (cash grain grower; grain farmer)<br>Duties: Plans, plants, fertilizes, cultivates, and harvests one or more grain crops for cash sale, using field equipment; may work independently or supervise foreman and work crews. |
| 403.181 | Vegetable Grower (garden farmer; market gardener)<br>Duties: Determines the kinds and amounts of vegetable crops to be grown according to market conditions; plants, fertilizes, cultivates, and harvests, using field machinery; may supervise one to several foremen, crews, or workers. |
| 403.883 | Farm Hand, Vegetable I<br>Duties: Plants, fertilizes, control pests, cultivates, and harvests vegetable crops; works in a crew under a foreman. |

| D.O.T. No. | Occupation |
|---|---|
| 403.887 | Farm Hand, Vegetable II (garden worker; laborer; vegetable farm; vegetable worker)<br>Duties: Plants, fertilizes, cultivates, controls pests, and harvests vegetable crops; working as crew member. |
| 404.131 | Fruit Farm Foreman (fruit ranch foreman; orchard foreman)<br>Duties: Supervises and coordinates activities of a work crew engaged in cultivating, pruning, spraying, thinning, propping, and harvesting crops from fruit trees; works under a manager. |
| 404.181 | Berry Grower<br>Grape Grower (vine grower; vineyard foreman; vineyard manager)<br>Orchardist<br>Duties: Plans, selects cultivars, and supervises planting, fertilizing, pest control, cultivation, pruning, and harvesting commercial crops with the aid of crew foremen and work crews. |
| 404.884 | Tree Pruner (pruner; tree trimmer)<br>Duties: Cuts away dead and excess branches from fruit, nut, and shade trees; works under a crew foreman. |
| 404.887 | Berry Farm Hand<br>Duties: Transplants, weeds, cultivates, fertilizes, picks, and packs berries such as strawberries, blackberries, and raspberries; under specific directions from a crew foreman or supervisor. |
| 405.181 | Tobacco Grower (tobacco farmer; tobacco planter; tobacco raiser)<br>Hay Farmer<br>Duties: Plans, plants, fertilizes, cultivates, harvests, and cures tobacco crops. May work independently or supervise the work of foreman and/or work crews. Plans and raises crops such as timothy, clover, and alfalfa to be used as hay; likely to work independently but may supervise foreman and/or work crews. |

| D.O.T. No. | Occupation |
|---|---|
| 405.887 | Tobacco Farm Hand (tobacco hand)<br>Duties: Plants, cultivates, harvest, and cures tobacco as a crew member. Also controls weeds. |
| 409.137 | Picking-Crew Foreman (crew foreman; foreman contractor; harvest foreman)<br>Duties: Supervise and coordinate activities of workers engaged in picking fruits, vegetables, and row crops; works under a manager. |
| 409.168 | Farm Manager (farm overseer; manager, agricultural; superintendent, farm)<br>Duties: Manages farm on behalf of employer, applying knowledge of management and farming techniques; supervises the work of foreman. |
| 409.181 | Tenant Farmer (farm renter)<br>Duties: Plants, cultivates, and harvests crops on land rented from another using field machinery; may work independently or supervise a helper or crew foreman. |
| 409.883 | Farm Equipment Operator<br>Duties: Drives and controls farm equipment to till soil and to plant, cultivate, and harvest crops; may work under a foreman or farm manager. |
| 409.883 | Contract Farmer (farmer, custom)<br>Duties: Performs any combination of duties entailed in preparing soil, planting, cultivation, and harvesting agricultural crops; works independently on a contract basis. |
| 409.884 | Sharecropper (cropper; share farmer)<br>Duties: Plants, cultivates, fertilizes, controls weeds, and harvests crops on land owned by another, for specified share of receipts from sale of crops; works independently. |
| 409.887 | Airplane Pilot Helper (flagman; swamper)<br>Duties: Mixes fertilizers and pesticides according to prescribed formula and loads seed, fertilizers, or pesticides onto airplane. |
| 411.181 | Dairy Farmer (dairy man)<br>Duties: Plans and raises dairy cows to produce milk and milk products; may work independently or supervise one worker or several foremen. |

| D.O.T. No. | Occupation |
|---|---|
| 411.884 | Dairy Farm Hand, I and II (dairy field hand; dairy hand; dairy helper; hired hands)<br>Duties: Works on dairy farm performing duties requiring knowledge of dairy cattle; works under a farm foreman or manager. |
| 411.885 | Milking Machine Operator (milker, machine)<br>Duties: Tends and maintains machines that milk dairy cows; works under a foreman or manager. |
| 412.137 | Poultry Foreman<br>Egg Room Foreman<br>Duties: Supervises workers engaged in cleaning and disinfecting poultry houses and equipment, transporting materials, supplies, and maintaining buildings and equipment; or supervises and coordinates activities of hatchery workers engaged in candling, sorting, and traying eggs prior to incubation; works under a manager. |
| 412.181 | Meat Poultryman (chicken farmer; poultry farmer; poultry man; poultry raiser)<br>Egg Poultryman (egg chicken farmer; egg poultry farmer; poultry man)<br>Chicken Fancier<br>Duties: Plans, breeds, hatches, and raises poultry either to sell as meat or for the production of eggs. May also raise uncommon varieties; may work independently or supervise the work of others. |
| 412.384 | Agricultural Aide<br>Duties: Assists in research; cultivates crops and attends to animals according to specific instructions of research workers to carry out experiments. |
| 412.384 | Poultry Farm Hand<br>Duties: Attends to poultry stock on farm concerned with hatching or selling eggs and raising poultry; works under a foreman. |
| 412.887 | Hatchery Laborer (incubator man; watchman, hatchery)<br>Duties: Attends to eggs and baby chicks in hatchery; works under a foreman. |

| D.O.T. No. | Occupation |
|---|---|
| 413.181 | Swine Herdsman<br>Cattle Rancher (beef grower; cattle feeder; cattleman; stockman)<br>Horse Raiser (horse breeder)<br>Duties: Plans, breeds, and raises animals such as swine, cattle, and horses for sale; may work independently or supervise foreman and/or work crews. |
| 413.181 | Sheep Rancher (sheep farmer)<br>Duties: Plans, breeds and raises sheep for production of wool, meat, and breeding stock; may work independently or supervise foreman. |
| 413.884 | Livestock Farm Hand<br>Duties: Feeds, waters, and maintains livestock such as cattle, sheep, and hogs on farm; works under a foreman or manager. |
| 419.181 | Animal Breeder (culturist)<br>Dog Breeder (dog fancier; kennel keeper)<br>Small Animal Breeder<br>Beekeeper (apiarist; bee farmer; bee man; bee raiser; honey producer)<br>Duties: Plans, breeds, and raises small animals such as dogs, cats, rabbits, pigeons for sale; mice, rats, guinea pigs for experimental research; and bees for the production of honey and pollination of crops; works independently or may supervise foreman/or workers. |
| 419.884 | Game Farm Helper (game farm laborer)<br>Fox Farm Farm Hand<br>Animal Farm Hand<br>Animal Caretaker<br>Saddle Horse Breeder (trainer)<br>Duties: Feeds, waters and maintains domestic or wild animals, small laboratory animals; foxes and game fowl; trains young horses to saddle and bridle; may work independently under a foreman or supervise individual workers. |
| 421.181 | General Farmer<br>Duties: Plans and raises various kinds of crops and livestock; works independently or may supervise foreman or individual workers. |

| D.O.T. No. | Occupation |
|---|---|
| 421.883 | General Farm Hand, I and II (farm hand, regular; farm wage hand; hired hand; hired man; wage hand)<br>Duties: Works on farm devoted to diversified agriculture performing duties requiring knowledge of livestock and crops and maintenance of structures and equipment; works under a foreman or manager. |
| 424.883 | Sprayer (chemical applicator; pesticide applicator; duties operator; machine duster; speed sprayer)<br>Duties: Sets up and operates equipment to dust tree crops, ground crops and livestock with liquid or powdered pesticides, fertilizers, herbicides, or hormones; may work independently under contract; or under foreman or manager; state license required. |
| 424.883 | Heavy Equipment Operator<br>Duties: Operates heavy equipment, such as crane loader, dump truck, or manure-turning machine to move and treat manure and soil for use in mushroom beds; may work under a foreman or manager; or may work independently under contract. |
| 429.131 | Farm Foreman<br>Duties: Supervise and coordinate activities of workers engaged in planting, cultivating, and harvesting crops and attending to livestock; responsible to a farm manager. |

## AGRICULTURAL PRODUCTS, PROCESSING, AND MARKETING

| D.O.T. No. | Occupation |
|---|---|
| 168.287 | Poultry Grader (agricultural commodity grader, poultry)<br>Duties: Certifies grade of dressed and ready to cook poultry in processing plants according to Federal standards; works under a supervisor. |
| 210.388 | Bookkeeper (general bookkeeper)<br>Duties: Keeps records of financial transactions of establishment; works under a supervisor or manager. |

| D.O.T. No. | Occupation |
|---|---|
| 222.587 | Shipping Clerk (delivery and order man; shipper; shipping packer)<br>Duties: Prepares products for shipping; works under a foreman or manager. |
| 262.358 | Foodstuff Salesman (fruit and vegetable)<br>Duties: Sells food products such as fruit and vegetables to retail food stores, wholesale processors, restaurants, hotels or institutions; may work independently or under a manager. |
| 292.358 | Driver Salesman (deliveryman; routeman)<br>Duties: Drives truck over established route to deliver, sell, and display products or render services; works under a foreman. |
| 420.887 | Agricultural Produce Packer<br>Duties: Packs agricultural produce such as eggs and vegetables for storage or shipment, performing a combination of duties; works in a processing plant; works under a foreman. |
| 521.885 | Grader Man (fruits and vegetables)<br>Duties: Tends machines that clean and grade fruits and vegetables in a processing plant; works under a foreman. |
| 525.381 | Butcher (all around)<br>Duties: Performs all slaughtering and butchering operations in a slaughtering and meat packing establishment, using such cutting tools as cleaver, knife, and saw; works under a foreman. |
| 525.884 | Meat Dresser (farm butcher)<br>Duties: Butchers livestock, such as hogs, sheep and cattle, in private slaughterhouse or on customer's premises; may work under a foreman or manager, or may work independently under contract. |
| 525.887 | Poultry Dresser (tipper)<br>Duties: Slaughters and dresses fowl to prepare them for market, performing any combination of tasks in a processing plant; works under a foreman. |

| D.O.T. No. | Occupation |
|---|---|
| 525.887 | Poultry Dressing Worker<br>Duties: Weighs, wraps, and prepares poultry for shipment or storage, performing a combination of duties in a processing plant; works under a foreman. |
| 525.887 | Poultry Hanger<br>Duties: Shackles and suspends live or slaughtered poultry from conveyor for killing, scalding, removal of feathers or cleaning in a processing plant; works under a foreman. |
| 525.887 | Meat Trimmer<br>Duties: Trims fat, shin tendons, tissues, and ragged edges from meat cuts using meat hook and knife; works in a processing plant; works under a foreman. |
| 529.687 | Egg Grader, Poultry (egg candler)<br>Egg Candler<br>Production Helper, Fruits and Vegetables<br>Duties: Inspects fruits and vegetables in a food processing and packaging establishment; inspects exterior and interior quality of eggs before sale or incubation; works under a foreman. |
| 529.782 | Dairy Processing Equipment Operator<br>Duties: Sets up and operates continuous flow or vat-type equipment to process milk, cream, and other dairy products, following specific methods and formulas; works under a foreman or manager. |
| 529.886 | Dairy Helper<br>Duties: Performs any combination of tasks in dairy processing plant; works under a foreman or manager. |
| 529.887 | Laborer<br>Duties: Performs any combination of tasks in a slaughtering, meat packing, and processing establishment; works under a foreman. |
| 905.883 | Milk Driver (milk hauler)<br>Duties: Drives insulated tank truck to transport bulk milk between farms, dairies, and commercial establishments; employed by a milk processing plant or works independently under contract; works under a foreman or supervisor. |

## RENEWABLE NATURAL RESOURCES

| D.O.T. No. | Occupation |
|---|---|
| 419.884 | Game Farm Helper, Hunting and Trapping (laborer, game farm)<br>Duties: Feeds, waters, and maintains game fowl raised on game farm for stocking wooded areas; works under a foreman. |
| 451.181 | Gamekeeper<br>Duties: Plans, breeds, raises, and protects game animals and birds on state game farm or private game preserve, to be released for hunting purposes; may manage, supervise, or serve in capacity of foreman. |
| 452.868 | Hunting and Fishing Guide<br>Duties: Plans itinerary for hunting and fishing trips; guides and transports sportsman to hunting and fishing areas; usually works independently under contract. |

## AGRICULTURAL SUPPLIES/SERVICES

| D.O.T. No. | Occupation |
|---|---|
| 210.388 | Bookkeeper (general bookkeeper)<br>Duties: Keeps records of firancial transactions of agricultural supply establishments; works under a foreman or supervisor. |
| 277.251 | Milking Machine Service Salesman<br>Duties: Sells and repairs milking equipment; works under a supervisor or manager. |
| 277.358 | Salesperson<br>Lawn and garden equipment and supplies<br>Cattle and poultry food supplements<br>Tractors and farm implements<br>Poultry equipment and supplies<br>Dairy supplies<br>Farm and garden equipment and supplies<br>Duties: Sells equipment and supplies, knowing the characteristics, qualtiy, and merit of items sold; works under a foreman or supervisor. |
| 289.358 | Florist Supplies Salesman<br>Duties: Sells florist supplies, such as fresh and artificial flowers, greens, vases, ribbon, and wire and performs other sales duties in a wholesale supply business; works under a supervisor or manager. |

| D.O.T. No. | Occupation |
|---|---|
| 290.478 | Sales Clerk<br>Duties: Receives payment for merchandise selected by customers and wraps or bags it, stocks shelves, and answers the telephone in an agricultural supply business; works under a supervisor or manager. |
| 292.358 | Salesman-Driver (delivery man; delivery truck driver; route driver; route man)<br>Duties: Drives truck over established route to deliver, sell, and display products or render services for an agricultural supply business; works under a supervisor or manager. |
| 356.874 | Dog Groomer (dog bather, dog beautician, dog hair clipper)<br>Kennelman (dog pound attendant, pound keeper, dog care man, dog handler)<br>Pet Shop Attendant<br>Stableman (barn hand, feed man, groom, stable boy, tackman)<br>Veterinarian Hospital Attendant<br>Duties: Feeds, water, cleans, and may groom and give special treatment to animals such as horses, farm animals, dogs and other pets; works under a foreman, supervisor, or manager. |
| 424.883 | Sprayer (chemcial applicator; duster operator; machine duster)<br>Duties: Sets up and operates equipment to dust crops with liquid or powdered pesticides, fertilizers, herbicides, or hormones; may work in an agricultural supply firm under a supervisor or manager, or may work independently under contract; state license required. |
| 469.381 | Dairy Tester<br>Duties: Tests milk to determine bacterial count, percentage of butterfat, and amount of acid in milk of each cow in herd, traveling from farm to farm; works for a dairy or a governmental agency; works under a supervisor or manager. |
| 520.885 | Feed Mixer (feeder operator; mixer man)<br>Duties: Tends machine that mixes stock or poultry feed according to formula and transfers it to packing machine or storage in a feed mill; works under a supervisor or manager. |

| D.O.T. No. | Occupation |
|---|---|
| 520.886 | Feed Mixer Helper (feed loader; hopper loader; mixer man helper)<br>Duties: Assists feed mixer in preparing stock and poultry feed by dumping sacks of wheat, corn, and other ingredients into hopper of mixing machine; works under a foreman. |
| 521.782 | Grinder Operator (feed miller; mill operator; meal man)<br>Duties: Operates bank of roll grinders to grind grain into meal or flour; works under a foreman. |
| 523.885 | Grain Drier Operator<br>Duties: Tends grain drying machines that reduce moisture content of grain; works in a grain elevator or feed mill; works under a foreman. |
| 921.883 | Grain Elevator Man (conveyor operator)<br>Duties: Controls conveyors or conveyor systems that transfer materials from elevators to vehicles or stockpile; loads or unloads vehicles, ships, or moves materials or products to and from stockpile, processes, or departments; works under a foreman. |
| 922.887 | Stores Laborer (stock boy; warehouseman)<br>Duties: Performs any combination of tasks to receive, store, ship, and distribute materials, tools, equipment, and products in an agricultural supply business; works under a foreman or supervisor. |

## FORESTRY

| D.O.T. No. | Occupation |
|---|---|
| 441.887 | Tree Pruner<br>Tree Planter<br>Duties: Plants, prunes, and thins out seedlings in predetermined forest area to improve timber quality and growing conditions; works under a foreman. |

| D.O.T. No. | Occupation |
|---|---|
| 449.884 | Tree Climber<br>Duties: Climbs specified trees, using rope, climbing spurs, and safety belt to tie cloth markers to topmost limbs identifying boundaries of area. |
| 465.887 | Sprayer, Hand<br>Duties: Sprays tree crops, ground crops, livestock with pesticides, fertilizers, herbicides, and hormones; works under a foreman; state license required. |
| 667.782 | Sawmill Worker<br>Duties: Performs duties in preparing and cutting logs into lumber and storing cut lumber. Examines logs for defects such as embedded iron or stones. |
| 921.782 | Tipple Man (tipple tender)<br>Duties: Operates tipple chain conveyor; moves presorted lumber from holding racks to stacking platform; works under a foreman. |
| 940.884 | Logger (stock cutter)<br>Cordwood Cutter (pulpwood cutter; wood chopper)<br>Feller (chopper; cutter; lumber feller; timber cutter; tree feller)<br>Duties: Fells, cuts, splits, and prepares logs for final logging operation; works under a foreman. |
| 942.887 | Chaser (block tender; landing man)<br>Duties: Oversees placement of logs brought to landing by high level rig on tractor and unhooks chokers from logs; works under a foreman. |

## HORTICULTURE

| D.O.T. No. | Occupation |
|---|---|
| 142.081 | Floral Designer<br>Duties: Designs and fashions floral pieces and decorations; may also work as a salesperson; works under a foreman or manager. |
| 210.388 | Bookkeeper (general bookkeeper)<br>Duties: Keeps records of financial transactions of establishment; works under a foreman, supervisor, or manager. |

| D.O.T. No. | Occupation |
|---|---|
| 222.587 | Shipping Clerk<br>Duties: Prepares products for shipment; works in a processing plant, nursery, greenhouse, or agricultural supplies firm; works under a foreman. |
| 260.458 | Salesperson<br>Duties: Displays, describes, and sells to individuals merchandise pertaining to the flower industry, works under a foreman, supervisor, or manager. |
| 404.884 | Tree Pruner (pruner; tree trimer)<br>Duties: Cuts away dead or excess branches from fruit, nut, and shade trees; works in a nursery or orchard; works under a foreman. |
| 406.181 | Seed Grower<br>Duties: Plans, plants, cultivates, fertilizes, controls weeds, and harvests pure varieties of seeds for sale to commercial seed houses or other farmers and growers; usually an independent person who may supervise foreman or crews. |
| 406.884 | Nursery Laborer<br>Duties: Prepares soil, plants, fertilizes, cultivates, controls weeds, prunes, and harvests nursery plants and operates and maintains nursery equipment and machinery; works under a foreman. |
| 406.887 | Tree Planter<br>Nursery Worker<br>Mushroom Farm Hand (mushroom farm laborer)<br>Park Foreman<br>Duties: Plants, cultivates, and harvests mushrooms, ornamental trees, and shrubs; operates and maintains equipment and machinery for these operations; and supervises and coordinates workers engaged in maintenance of municipal parks and playgrounds; works under a foreman. |
| 407.181 | Landscape Gardener<br>Duties: Plans and executes small scale landscaping operations and maintains grounds and landscapes of private residences and businesses; may work as a foreman or supervisor; may work independently under contract. |

| D.O.T. No. | Occupation |
|---|---|
| 407.868 | Park Caretaker (caretaker)<br>Duties: Performs duties to facilitate maintenance and public enjoyment of city, state, or national parks; as foreman supervises work crews; works under a supervisor or manager. |
| 407.883 | Greenskeeper (golf course laborer)<br>Duties: Mows, fertilizes, controls weeds, waters, and otherwise maintains golf course greens, tees, fairways, and roughs. May also maintain trees, shrubs, and flowers. Operates and maintains golf course equipment and machinery; works under a foreman. |
| 407.887 | Park Worker (park cleaner)<br>Landscape Laborer<br>Cemetery Worker<br>Duties: Landscapes and keeps grounds of city, state, or national parks clean and repairs buildings and equipment; prepares graves and maintains cemetery grounds; works under a foreman. |
| 409.181 | Tree Surgeon (tree doctor)<br>Duties: Prunes and treats ornamental and shade trees and shrubs in yards and parks to improve their appearance, health, and value; works under a foreman. |
| 424.383 | Tree Sprayer<br>Duties: Sets up and operates equipment to dust tree crops, ground crops, with liquid or powdered pesticides, fertilizers, herbicides, or hormones; works under a foreman; may also perform duties of tree surgeon (409.181); state license required. |
| 638.884 | Maintenance Mechanic Helper (laborer)<br>Duties: Assists Maintenance Mechanic II in repairing and maintaining machinery and mechanical equipment for horticultural businesses; works under a foreman. |

## V CONDUCT THE INSTRUCTIONAL PROGRAM

### Existing and New Programs

1. Carry out the instructional program as written or revised.
2. Develop or change the recruitment plan for the vocational agriculture program, including:
    a. Assist guidance office in selecting suitable "Interest" and "Abilities" inventory materials and "Career" materials for career orientation of incoming students.
    b. Visit prospective students during the summer.
    c. Conduct an annual "Open House" or similar activity for prospective students.
    d. Establish a public relations program in vocational agriculture for schools and community.
3. Develop or revise progress record forms for students, with particular attention to competency development.
4. Develop or revise the work experience program, with particular attention to comments by employers on the performance of graduates. Consultation with the advisory committee may be helpful in this matter.
5. Develop or revise from item 4 a simple form for recording a list of competencies acquired by each graduating student, appropriate for attaching to a job application form.

References:

Category C: Instruction Execution, Modules C-1 through C-29.
Category D: Instructional Evaluation, Modules D-1 through D-6.
Category E: Instructional Management, Modules E-1 through E-9.
Category F: Guidance, Modules F-1 through F-5.
Category G: School-Community Relations, Modules G-1 through G-10.
Category H: Student Vocational Organization, Modules H-1 through H-6.
Category J: Coordination of Cooperative Education, Modules J-1 through J-10.
From AAVIM, Engineering Center, University of Georgia, Athens, GA 30602
Prices of units vary.

References:

The Applied Biological and Agribusiness Interest Inventory- (Test Booklet, answer sheet, scoring keys, summary). 1971. Walker and Stevens. Interstate Printers and Publishers, Inc., Danville, IL 61832. "Specimen Set." $1.75.

## VI PLACEMENT

Existing and New Programs

1. Develop a card file of potential job openings, filed alphabetically by job title, as well as employers filed alphabetically by job title. This can be developed from the information gathered in the business survey. Revise this file annually. Share it with the School Placement Service.

2. Give job application and interview training to students in their last term prior to graduation.

3. In the last term of school or as a running record filled in each term, provide each student with a simple form listing the competencies that he (or she) developed while enrolled in vocational agriculture. This should be suitable for attachment to a job application form.

4. Acquaint students with the school, area, and state job placement services.

5. If the school does not provide a job placement service, assist students in locating job openings for which they have prepared. Follow up to determine whether placement has been successful.

References:

"High School Version of Employability Skills Program" (18 modules), $3.60. Wisconsin Vocational Studies Center, University of Wisconsin, Madison, 321 Education Bldg., Box 49, Madison, WI 53706.

F-3. Assist Students in Applying for Employment or Further Education. 1977. $2.60. AAVIM, Engineering Center, University of Georgia, Athens, GA 30602.

1M778 U. Ed. 8-996

# Appendix 4

# Community Resource Workbook and Sample Community Description

# COMMUNITY RESOURCES WORKBOOK

Prepared by

Robert A. Martin
Department of Agricultural and Extension Education
The Pennsylvania State University
University Park, PA 16802

1981

# COMMUNITY RESOURCES WORKBOOK

Name ______________________________

School District ______________________

## COMMUNITY RESOURCES WORKBOOK

The workbook is a guide to help you get acquainted with the community in which you are teaching.

The information contained in this workbook will assist you in developing a working knowledge of essential community resources. At the beginning of your employment it will enable you to perform your duties with a greater degree of competence.

When this workbook is completed you will have a useful ready reference on the following aspects of the community:

a. Geographic
b. Economic
c. Population and distribution
d. People and organizations
e. Communication media
f. Emergency agencies
g. Data
h. Things

Suggested sources of information to complete this workbook are:

Current agricultural and population census reports
Annual reports available through the Cooperative Extension Service
Cooperative Extension program plans
Cooperative Extension workers
Social services directory
Planning Commissions
Fellow vocational agriculture teachers
Area consultants
Agri-business employees and employers
Library

## A. Geographic Information

1. Land area of county. Acres ____________ Sq. Miles ____________
   Land area of Pennsylvania. Sq. Miles _____; size rank among 50 states _________

2. Topography of the county/state (brief description)

   Percent in forests ____________

   Percent in farms ____________

   Percent state game lands ____________

   Percent state parks ____________

   Percent national parks ____________

   Percent county parks ____________

   Percent public recreation areas ____________

3. Names of Parks and Contact Persons

   ______________________________________________

   ______________________________________________

   ______________________________________________

   ______________________________________________

   ______________________________________________

   ______________________________________________

4. List major soil types:

   ____________________ ____________________

   ____________________ ____________________

   ____________________ ____________________

5. Range of elevation ______________________________

6. Average rainfall ______________________________

7. Frost dates ______________________________

8. Length of growing season ____________________

9. List the most important agricultural commodities produced in your county and their primary markets.

10. List major transportation facilities serving area -- include airports.

11. Busses to hire:

12. Location of usual district/regional meetings and events--phone numbers:

13. Community meeting facilities--indicate if rent free/charge (amount):

14. Community centers--location and/or phone:

____________________ ____________________

____________________ ____________________

____________________ ____________________

____________________ ____________________

____________________ ____________________

____________________ ____________________

15. Groups who will serve meals:

____________________ ____________________

____________________ ____________________

____________________ ____________________

____________________ ____________________

____________________ ____________________

B. Economic Information

1. Annual gross agricultural income for county/state __________

Income for dairy products __________

Income from beef cattle __________

Income from other livestock __________

Income from poultry __________

Income from vegetables __________

Income from fruits __________

Income from field crops __________

Income from specialty crops __________

Crop Acres Yield (Avg.)

2. The principal forage crop ____________________

3. The principal grain crop ____________________

4. The principal cash crop ____________________

5. List the average farm income for your county and state ________

6. What percent of the farmers depend on off-farm employment for a portion of their annual income? ____________________

7. Major non-agricultural sources of income:

| Name | Location |
|---|---|
| | |
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| | |

8. People employed:

Percent work within county ____________

Percent work outside county ____________

C. Population and Distribution--(by county or state)

1. Total Population ____________

2. Racial characteristics:

A. American Indian ____________

B. Black ____________

C. Oriental ____________

D. Spanish American ____________

E. White ____________

F. Other ____________

3. Number of farm families ____________________

4. Number of farms ____________________

5. Rural non-farm population ____________________

6. Farm population ____________________

7. City and suburban population ____________________

8. List municipalities:

| Names | Population | Major Economic Activity |
|---|---|---|
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8. Municipalities (continued)

| Names | Population | Major Economic Activity |
|---|---|---|

9. Median family income:

Urban/suburban ______________

Farm Families ______________

Rural Non-Farm Families ______

10. Educational level of the population last census:

| Level of Education | Number of People | % |
|---|---|---|
| None | | |
| 1 through 8 years | | |
| 9 through 12 years | | |
| 13 or more years | | |

11. Percentage of population in different age brackets:

%

______________

______________

______________

______________

______________

12. Number of boys and girls age 14-19 ______________

13. Number of FFA Chapter members: Local _____ County ____ Area ____

14. Number of FFA Chapters: Local ____ County ____ Area ____

D. People and organizations:

| | Name | Office Location - Phone |
|---|---|---|
| 1. Area Consultants | | |
| | | |
| | | |
| | | |
| | | |
| 2. State Supervisor | | |

3. U.S. Congressmen

| Name | Address | Phone |
|---|---|---|
| | | |
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| | | |

4. State Legislators

5. County Commissioners and Chief Clerk

6. County Judge(s)

7. County Extension Agents Within the County

Name | Area of Responsibility | Phone

8. Vocational Advisory Committee

Name | Phone

8. Vocational Advisory Committee (continued)

Name Phone

9. Dairy Herd Improvement Association Supervisors

Name Address

10. Other Relevant Agency Personnel

Name Office Location

Agricultural Stabilization and Conservation Service--County Chairman

Agricultural Stabilization and Conservation Service--Office Manager

Adult Services

Child Care Coordinated Council

Name Office Location

Consumer Product Safety Commission

Consumer Protection

Dairy Council

Department of Public Assistance

Farm Credit Service Representative

Department of Environmental Resources

District Conservationist—Soil Conservation Service (SCS)

District Forester

Farmers' Home Administration

Food and Drug Administration

Game Protector

Health, Education, Welfare (H.E.W.) Representatives

| Name | Office Location |
|---|---|
| Historical/Tourist Commission | |
| Mental Health/Mental Retardation | |
| National Association for Advancement of Colored People (NAACP) | |
| Parks and Recreation | |
| Welcome Wagon | |
| U.S. Department of Agriculture--Regional Offices | |
| Health Department | |
| Regional Health Department | |
| Homemaker/Home Health Aides | |
| Meals on Wheels Coordinator | |

Name Office Location

County Opportunity Council

______________________________

Planned Parenthood

______________________________

Fish Protector or Warden

______________________________

Planning Commission

______________________________

Office of the Aging

______________________________

PAFC--Pennsylvania Association of Farmer Cooperatives

______________________________

Other

______________________________

______________________________

______________________________

______________________________

______________________________

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11. Names of School Districts/Intermediate Units

| Name | Office Location |
|---|---|
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12. Other educational institutions such as Vo-Tech schools, Trade schools, Specialty schools, Work Study Programs, Vocational Agriculture Departments

| Name | Office Location |
|---|---|
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13. Libraries

**Name** **Office Location**

14. FFA and FHA Chapters; Scouts; YW/YM; other youth groups

**Name** **School**

15. Institutions of Higher Learning

Location

16. Cooperatives

| Name | Location | Function |
|---|---|---|

17. Principal Officer of Breed Associations or Commodity Organizations

| Organization | Name of Officer | Address |
|---|---|---|

18. Township Officials Association

| Name of Township | Location of Building | Phone No. and/or Name of Official |
|---|---|---|
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Township Officials Association (continued)

| Name of Township | Location of Building | Phone No. and/or Name of Official |
|---|---|---|

19. Environmental Agencies and Associations

Name of Organization Officer Address

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

20. Pennsylvania Farmers Association (County and State)

Officers Name Address

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

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________________________________________

21. Pennsylvania Farmers' Association (County) and Women's Committee

Officers Name Address

________________________________________

________________________________________

________________________________________

________________________________________

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Pennsylvania Farmers' Association (County) and Women's Committee (continued)

| Officers | Name | Address |
|---|---|---|
| | | |
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32. Granges

| Name of Local Granges | Local Master | Address |
|---|---|---|
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| | | |

Name of State Grange, Master

________________________________________

________________________________________

33. National Farmers' Organization (NFO)

| Officer | Name | Address |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

24. Other key persons in county (Business Men, Business Women, Bankers, Farmers, Kellogg Leadership participants, etc.)

| Name | Affiliated With | Address |
|---|---|---|

## E. Communication Media

### 1. Newspapers serving the county

| Name of Paper | Daily/ Weekly | News Deadline | Editor or Contact | Location |
|---|---|---|---|---|
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### 2. Farm and Home News Publications

| News Deadline | Editor or Contact | Location |
|---|---|---|
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3. Radio Stations Available

| Station | Program Director | Location |
|---|---|---|
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4. Television Studios Available

| Station | Program Director | Location |
|---|---|---|
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5. Cable Television Stations Available

| Station | Program Director | Location |
|---|---|---|
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F. Emergency Agencies

1. State police barracks serving county

| Location | Phone |
|---|---|
| | |

2. Ambulance (local)

3. Fire company (local)

4. Hospitals serving county

5. Poison Control Center

6. Civil Defence Office

G. List of Agri-Businesses in School District

Name Address

List of Agri-Businesses in School District (continued)

**Name** **Address**

H. List of Agri-Businesses outside School District but within 30 mile radius.

| Name | Address |
|---|---|

List of Agri-Businesses outside School District but within 30 mile radius.

| Name | Address |
|---|---|
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# FREE!

## FREE! TEACHER AIDS FREE!

PEOPLE: WHO ARE THE PEOPLE IN YOUR COMMUNITY THAT CAN SERVE AS A RESOURCE FOR YOUR CLASSES?

DATA: WHAT ARE THE TYPES OF INFORMATION AVAILABLE TO YOU WITHIN YOUR COMMUNITY?

THINGS: WHAT ARE THE INDUSTRIES, FARMS, AND GOVERNMENT AGENCIES THAT CAN HELP YOU TEACH VOCATIONAL AGRICULTURE?

# Free Teaching Aids

## People, Data, Things

## Available from the Community

PEOPLE: Who are the people in your community that can serve as a resource for your classes?

County Agent
Feed Dealer
Tractor & Machinery Dealership
Seed Dealer
Supply Dealer (i.e. Agway, Farm Bureau - Co-op)
Nursery Dealers
Greenhouse Owners
Soil Conservationists
Breeder Service Technician
Farmer: Dairy, Beef, Poultry, etc.
Fruit Growers
Golf Course-Greens Manager
District Forester
Penn State (Universities)
Game Protector
$H_2O$ Patrolmen
Energy Conservation - Power Co. - Need Control
Fertilizer Dealers
Pesticide Sprayers
Feed Mill
Grain Dealer
Garden Club
Grange
Florists Organizations
Retired Professionals - Builders
Representative Trade Organizations
Officers in Special Interest Groups
Contest Winners
Students

DATA: What are the types of information available to you within your community?

Ag. Census
Labor Market Data
Local Farmers
Local Industries
Past Record Books
Community
Co-op Extension Publications
Agronomy Guide
Field Crop Study
Seed Co. Books
Fruit Vegetable Growers Guide
Local Weather Stations
Crop Reporting Service

DATA: Farm Publications
Government Publications
U.S.D.A.
Chemical Company
Penn State Extension
Fair Guides
Catalogs
Ag. Teacher Directories
Files from previous teachers
Professional Organization Publications
DOT
Soil Survey Report
Commercial Organizations

THINGS: What are the industries, farms, and government agencies that can help you teach vocational agriculture?

Agway - special tools & equipment, seeds
Local Farms - tours
Extension - resource material
Slaughter House - animal organs
Equipment Dealers - bring in equipment, manuals
Feed Mills - feed samples
Fertilizer Manufacturer - fertilizer sample
Vets - daily care schedules
Blacksmith - hoof care information, demonstration
Electric Co. - films
Electric Supply Co. - sample controls
Farm Tire & Services - tire types & care
Milk Co-op - milk testing kits
Storage Buildings - illustration & descriptions
Forestry Department - tree identification
Game Lands - clear cutting, feeding areas
Fish & Game Commission - films
Penn State - resource information, soil tests, etc.

## Information Sheets
## on
## Community Resources

### Individual Work Sheets

Examples of Units of Instruction

Beef Production
Dairy Production
Sheep Production
Swine Production
Poultry Production
Small Animal Production
Wildlife

Corn Production
Soybean Production
Wheat Production
Barley Production
Oat Production
Rye Production
Fruit Production
    Apple
    Peaches
    Plums
    Strawberries
    Other
Vegetable Production
    Potato
    Tomato
    Onion
    Cabbage
    Other
Forestry

Introductory Welding
Advanced Welding
Tractor Maintenance
Concrete and Masonry
Electricity
Machinery Maintenance & Repair
Woodworking
Planter Operation
Combine Operation
Tillage Machinery Operation
Forage Harvesting Operation

Cut Flower Production
Bedding Plant Production
Landscape Design
Soil Preparation
Pest Control
Packaging and Shipping
Harvesting
Fertilizing
Watering

Identified Resources

People:
Data:
Things:

## Individual Worksheets

| Unit of Instruction | Identified Resources |
|---|---|
| 1. | People: |
|  | Data: |
|  | Things: |
| 2. | People: |
|  | Data: |
|  | Things: |

**************

SAMPLE

**************

## Community Description

Kutztown is situated in the beautiful eastern part of Berks County, midway between Allentown and Reading. It is sometimes referred to as the "Capitol of Pennsylvania Dutchland" because 65 percent of the popultion is of German descent and also because it's the site of the annual Pennsylvania Folk Festival.

Close neighbors to Kutztown are the areas of Brandywine and Fleetwood. Together these three areas make up the East Penn Valley. Agriculture is very important in this area with a large part of the land, about 200 square miles, being used to produce crops and for pasture. Dairy farming is the largest enterprise with a few beef and poultry farms.

This area is not only known for its very fertile soils but also for its many industries. With a population of 22,342 there are three population centers: Kutztown with 6,017, the town of Topton with 1,744, and the town of Fleetwood with 3,064. Some of the more important industries are Caloric, Atlas Minerals, Aerospace, Adidas, and Decca Battery. As for agriculture industry, there are four feed mills, one very large mill in Fleetwood; F&M Browns, an Agway in Kutztown, and a Massey Ferguson implement dealer in Maxatawny.

The East Penn Valley is filled with many recreational activities. The biggest is skiing on Doe Mountain Ski Resort, which attracts people from all over the eastern part of Pennsylvania. Each of the three towns has large parks which include playground equipment, baseball diamonds, tennis and basketball courts, and public swimming pools. The Kutztown park also includes a concert hall and a roller skating rink. Many of the streams in the area are stocked with fish and there is an abundance of deer and small game for hunting. The biggest activities for the summer include the Kutztown Fair and the Kutztown Folk Festival.

The educational opportunities in this area are very good with three school districts to serve the students, which includes two vocational-technical schools outside the area that serve the schools. Then there is the agriculture vocational program in the Kutztown district that also serves the other school districts. As for postsecondary educational opportunity there is the well-known Kutztown State College.

The East Penn Valley has very many assets, but its best is its location. Centered between the two large cities of Allentown and Reading, about a 30-minute drive in each direction, it opens up recreational, job and educational opportunities even greater, making it a nice place to live.

# Appendix 5

## Unit Titles and Problem Areas Labels

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|---|---|---|---|---|
| SUPERVISED OCCUPATIONAL EXPERIENCE | FUTURE FARMERS OF AMERICA | LEADERSHIP EDUCATION | DAIRY PRODUCTION | BEEF PRODUCTION |
| POULTRY PRODUCTION | SHEEP PRODUCTION | SWINE PRODUCTION | HORSE PRODUCTION | SMALL ANIMAL PRODUCTION |
| SMALL GASOLINE ENGINES | HYDRAULIC SYSTEMS | ELECTRIC MOTORS | ELECTRICITY | AG TRACTORS |
| GRAPE PRODUCTION | VEGETABLE PRODUCTION | WILDLIFE MANAGEMENT | AGRICULTURAL PRODUCTS | AGRICULTURAL PRODUCTION |
| SMALL GRAIN PRODUCTION | CORN PRODUCTION | SOYBEAN PRODUCTION | FORAGE PRODUCTION | TREE FRUIT PRODUCTION |
| AGRICULTURAL BUSINESS MANAGEMENT | SMALL GRAIN PRODUCTION | AGRICULTURAL MACHINERY (VARIOUS TYPES) | FARM MANAGEMENT | AGRICULTURAL CHEMICALS AND PESTICIDE MANAGEMENT |
| SHOP ORGANIZATION AND SAFETY | TOOL FITTING | WELDING (ELECTRIC) | WELDING (GAS) | WOODWORKING HAND AND POWER TOOLS |
| CONCRETE AND MASONRY | BUILDING CONSTRUCTION | PLUMBING | PAINTING | GLAZING |
| COLD METAL | HOT METAL | SOLDERING AND SHEET METAL | | |

|  |  |  |  |  |
|---|---|---|---|---|
| SUPERVISED OCCUPATIONAL EXPERIENCE | FUTURE FARMERS OF AMERICA | LEADERSHIP EDUCATION | DAIRY PRODUCTION | BEEF PRODUCTION |
| POULTRY PRODUCTION | SHEEP PRODUCTION | SWINE PRODUCTION | HORSE PRODUCTION | SMALL ANIMAL PRODUCTION |
| SMALL GASOLINE ENGINES | HYDRAULIC SYSTEMS | ELECTRIC MOTORS | ELECTRICITY | AG TRACTORS |
| GRAPE PRODUCTION | VEGETABLE PRODUCTION | WILDLIFE MANAGEMENT | AGRICULTURAL PRODUCTS | AGRICULTURAL PRODUCTION |
| SMALL GRAIN PRODUCTION | CORN PRODUCTION | SOYBEAN PRODUCTION | FORAGE PRODUCTION | TREE FRUIT PRODUCTION |
| AGRICULTURAL BUSINESS MANAGEMENT | SMALL GRAIN PRODUCTION | AGRICULTURAL MACHINERY (VARIOUS TYPES) | FARM MANAGEMENT | AGRICULTURAL CHEMICALS AND PESTICIDE MANAGEMENT |
| SHOP ORGANIZATION AND SAFETY | TOOL FITTING | WELDING (ELECTRIC) | WELDING (GAS) | WOODWORKING HAND AND POWER TOOLS |
| CONCRETE AND MASONRY | BUILDING CONSTRUCTION | PLUMBING | PAINTING | GLAZING |
| COLD METAL | HOT METAL | SOLDERING AND SHEET METAL |  |  |

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|---|---|---|---|---|
| SUPERVISED<br>OCCUPATIONAL<br>EXPERIENCE | SOE<br>Identifying the purpose of SOE | SOE<br>Identifying types of SOE projects | SOE<br>Identifying recordkeeping in projects | SOE<br>Developing project goals |
| SOE<br>Developing budgets | SOE<br>Identifying support activities of projects | SOE<br>Summarizing SOE projects | SOE<br>Analyzing SOE projects | SOE<br>Scoring SOE projects |
| SOE<br>Keeping and analyzing record books using computers | FUTURE<br>FARMERS OF<br>AMERICA | FFA<br>Identifying historical development | FFA<br>Identifying organizational structure | FFA<br>Identifying objectives and goals |
| FFA<br>Listing activities and awards | FFA<br>Implementing above | LEADERSHIP<br>EDUCATION | LEADERSHIP ED<br>Demonstrating communication ability | LEADERSHIP ED<br>Developing officer training |
| LEADERSHIP ED<br>Developing community service | LEADERSHIP ED<br>Developing committee involvement | DAIRY<br>PRODUCTION | DAIRY PROD<br>Selecting dairy cattle | DAIRY PROD<br>Judging and showing dairy cattle |
| DAIRY PROD<br>Planning for production | DAIRY PROD<br>Breeding dairy cattle | DAIRY PROD<br>Feeding dairy cattle | DAIRY PROD<br>Housing dairy cattle | DAIRY PROD<br>Preventing diseases |
| DAIRY PROD<br>Marketing dairy cattle products | DAIRY PROD<br>Milking dairy cattle | DAIRY PROD<br>Recordkeeping | DAIRY PROD<br>Analyzing dairy enterprises | BEEF<br>PRODUCTION |
| BEEF PROD<br>Planning for production | BEEF PROD<br>Selecting beef cattle | BEEF PROD<br>Judging and showing beef cattle | BEEF PROD<br>Breeding beef cattle | BEEF PROD<br>Feeding beef cattle |
| BEEF PROD<br>Housing beef cattle | BEEF PROD<br>Preventing diseases | BEEF PROD<br>Using equipment in beef production | BEEF PROD<br>Marketing beef cattle | BEEF PROD<br>Recordkeeping for beef production |
| BEEF PROD<br>Analyzing the beef enterprise | POULTRY<br>PRODUCTION | POULTRY PROD<br>Planning for production | POULTRY PROD<br>Selecting poultry | POULTRY PROD<br>Judging and showing poultry |

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| POULTRY PROD<br>Breeding poultry | POULTRY PROD<br>Housing poultry | POULTRY PROD<br>Raising poultry for meat | POULTRY PROD<br>Raising poultry for eggs | POULTRY PROD<br>Feeding poultry |
| POULTRY PROD<br>Using equipment for poultry | POULTRY PROD<br>Outlining a health program | POULTRY PROD<br>Demonstrating paravetic skills | POULTRY PROD<br>Marketing poultry and poultry products | POULTRY PROD<br>Recordkeeping in poultry production |
| POULTRY PROD<br>Analyzing the poultry enterprise | SHEEP<br>PRODUCTION | SHEEP PROD<br>Planning for sheep production | SHEEP PROD<br>Selecting sheep | SHEEP PROD<br>Judging and showing sheep |
| SHEEP PROD<br>Breeding sheep | SHEEP PROD<br>Feeding sheep | SHEEP PROD<br>Housing sheep | SHEEP PROD<br>Outlining a health program | SHEEP PROD<br>Using equipment for sheep |
| SHEEP PROD<br>Marketing sheep for meat | SHEEP PROD<br>Marketing sheep for wool | SHEEP PROD<br>Recordkeeping for sheep production | SHEEP PROD<br>Analyzing the sheep enterprise | SWINE<br>PRODUCTION |
| SWINE PROD<br>Planning for production | SWINE PROD<br>Selecting swine | SWINE PROD<br>Judging and showing swine | SWINE PROD<br>Housing swine | SWINE PROD<br>Feeding swine |
| SWINE PROD<br>Breeding swine | SWINE PROD<br>Outlining a health program | SWINE PROD<br>Identifying equipment in swine production | SWINE PROD<br>Marketing swine | SWINE PROD<br>Recordkeeping for swine production |
| SWINE PROD<br>Analyzing the swine enterprise | HORSE<br>PRODUCTION | HORSE PROD<br>Planning for production | HORSE PROD<br>Selecting horses | HORSE PROD<br>Judging and showing horses |
| HORSE PROD<br>Breeding horses | HORSE PROD<br>Feeding horses | HORSE PROD<br>Outlining a health program | HORSE PROD<br>Training horses | HORSE PROD<br>Using equipment and tack for horses |
| HORSE PROD<br>Housing horses | HORSE PROD<br>Recordkeeping for horses | HORSE PROD<br>Analyzing the horse enterprise | SMALL<br>ANIMAL<br>PRODUCTION | SM ANIMAL PROD<br>Planning for production of small animals |

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|---|---|---|---|---|
| SM ANIMAL PROD<br>Selecting small animals | SM ANIMAL PROD<br>Breeding small animals | SM ANIMAL PROD<br>Showing small animals | SM ANIMAL PROD<br>Experimenting with small animals | SM ANIMAL PROD<br>Feeding small animals |
| SM ANIMAL PROD<br>Housing small animals | SM ANIMAL PROD<br>Using equipment for small animals | SM ANIMAL PROD<br>Outlining a health program | SM ANIMAL PROD<br>Marketing small animals | SM ANIMAL PROD<br>Recordkeeping for small animals |
| SM ANIMAL PROD<br>Analyzing the small animal enterprise | SMALL<br>GRAIN<br>PRODUCTION | SM GRAIN PROD<br>Planning for production | SM GRAIN PROD<br>Identifying types and varieties | SM GRAIN PROD<br>Selecting seed |
| SM GRAIN PROD<br>Preparing the seedbed | SM GRAIN PROD<br>Outlining a fertility program | SM GRAIN PROD<br>Sowing small grains | SM GRAIN PROD<br>Controlling pests | SM GRAIN PROD<br>Harvesting small grains |
| SM GRAIN PROD<br>Storing small grains | SM GRAIN PROD<br>Marketing small grains | SM GRAIN PROD<br>Analyzing the small grain enterprise | CORN<br>PRODUCTION | CORN PROD<br>Planning for corn production |
| CORN PROD<br>Identifying varieties | CORN PROD<br>Selecting seed | CORN PROD<br>Preparing seedbed | CORN PROD<br>Outlining a fertility program | CORN PROD<br>Controlling pests |
| CORN PROD<br>Planting corn | CORN PROD<br>Conducting a corn yield check | CORN PROD<br>Harvesting corn | CORN PROD<br>Storing corn | CORN PROD<br>Marketing corn |
| CORN PROD<br>Analyzing the corn enterprise | SOYBEAN<br>PRODUCTION | SOYBEAN PROD<br>Planning for soybean production | SOYBEAN PROD<br>Selecting varieties | SOYBEAN PROD<br>Selecting seed |
| SOYBEAN PROD<br>Preparing seedbed | SOYBEAN PROD<br>Outlining a fertility program | SOYBEAN PROD<br>Controlling pests | SOYBEAN PROD<br>Harvesting soybeans | SOYBEAN PROD<br>Storing soybeans |
| SOYBEAN PROD<br>Marketing soybeans | SOYBEAN PROD<br>Analyzing soybean enterprise | FORAGE<br>PRODUCTION | FORAGE PROD<br>Planning for forage production | FORAGE PROD<br>Identifying types and varieties |

FORAGE PROD
Selecting seed

FORAGE PROD
Preparing seedbed

FORAGE PROD
Outlining a fertility program

FORAGE PROD
Planting forages

FORAGE PROD
Controlling pests

FORAGE PROD
Harvesting forages

FORAGE PROD
Storing forages

FORAGE PROD
Marketing forages

FORAGE PROD
Analyzing forage production

TREE
FRUIT
PRODUCTION

TREE FRUIT PROD
Planning for tree fruit production

TREE FRUIT PROD
Selecting rootstock and varieties

TREE FRUIT PROD
Preparing orchard soil

TREE FRUIT PROD
Establishing the orchard fertility program

TREE FRUIT PROD
Pruning the trees

TREE FRUIT PROD
Setting the crop

TREE FRUIT PROD
Developing the crop

TREE FRUIT PROD
Thinning the crop

TREE FRUIT PROD
Controlling pests, weeds, insects and disease

TREE FRUIT PROD
Harvesting the tree fruit

TREE FRUIT PROD
Storing the fruit

TREE FRUIT PROD
Marketing tree fruit

TREE FRUIT PROD
Analyzing the tree fruit enterprise

SMALL
FRUIT
PRODUCTION

SM FRUIT PROD
Planning for production

SM FRUIT PROD
Selecting varieties

SM FRUIT PROD
Preparing the soil

SM FRUIT PROD
Outlining a fertility program

SM FRUIT PROD
Planting small fruit

SM FRUIT PROD
Controlling pests (weeds, insects, disease)

SM FRUIT PROD
Harvesting small fruits

SM FRUIT PROD
Storing small fruits

SM FRUIT PROD
Marketing small fruits

SM FRUIT PROD
Analyzing small fruit enterprises

GRAPE
PRODUCTION

GRAPE PROD
Planning for grape production

GRAPE PROD
Selecting the site

GRAPE PROD
Listing and selecting the varieties

GRAPE PROD
Outlining a fertility program

GRAPE PROD
Controlling pests

GRAPE PROD
Planting grapes

GRAPE PROD
Maintaining vineyard and the trellis

GRAPE PROD
Harvesting grapes

GRAPE PROD
Storing grapes

GRAPE PROD
Marketing grapes

GRAPE PROD
Analyzing the grape enterprise

VEGETABLE
PRODUCTION

VEGETABLE PROD
Planning for vegetable production

VEGETABLE PROD
Planning the garden

VEGETABLE PROD
Selecting the varieties

| | | | | |
|---|---|---|---|---|
| VEGETABLE PROD<br>Preparing the soil | VEGETABLE PROD<br>Outlining a fertility program | VEGETABLE PROD<br>Planting crops | VEGETABLE PROD<br>Controlling pests--weeds, insects, disease | VEGETABLE PROD<br>Harvesting vegetables |
| VEGETABLE PROD<br>Storing vegetables | VEGETABLE PROD<br>Marketing vegetables | VEGETABLE PROD<br>Analyzing the vegetable enterprise | WILDLIFE<br>MANAGEMENT | WILDLIFE MGMT<br>Outlining history of wildlife conservation |
| WILDLIFE MGMT<br>Identifying wildlife in the environment | WILDLIFE MGMT<br>Identifying ecological concepts | WILDLIFE MGMT<br>Measuring wildlife populations | WILDLIFE MGMT<br>Listing factors limiting wildlife populations | WILDLIFE MGMT<br>Studying wildlife habitat |
| WILDLIFE MGMT<br>Listing habitat | WILDLIFE MGMT<br>Managing wildlife | WILDLIFE MGMT<br>Outlining safety and wildlife | WILDLIFE MGMT<br>Discussing future of wildlife | AGRICULTURAL<br>PRODUCTS |
| AG PROD<br>Marketing meat products | AG PROD<br>Listing regulations in meat products | AG PROD<br>Marketing poultry and egg products | AG PROD<br>Listing regulations in poultry and egg product marketing | AG PROD<br>Marketing milk and other dairy products |
| AG PROD<br>Transporting milk and dairy products | AG PROD<br>Listing regulations in milk marketing | AG PROD<br>Marketing grain products | AG PROD<br>Grading corn | AG PROD<br>Marketing procedures |
| AGRICULTURAL<br>PRODUCTION | AGRICULTURAL<br>BUSINESS<br>MANAGEMENT | AG BUS MGMG<br>Selecting business types | AG BUS MGMT<br>Analyzing the budget | AG BUS MGMT<br>Managing money |
| AG BUS MGMT<br>Explaining farm and agricultural business law | AG BUS MGMT<br>Insuring the agribusiness | AG BUS MGMT<br>Recordkeeping in the agribusiness | AG BUS MGMT<br>Managing real estate | AG BUS MGMT<br>Understanding the tax structure |
| AG BUS MGMT<br>Identifying contributing governmental agencies | AG BUS MGMT<br>Listing work benefits in agribusiness | AG BUS MGMT<br>Applying for a job in agribusiness | AG BUS MGMT<br>Identifying marketing and purchasing in the agribusiness | FARM<br>MANAGEMENT |
| FARM MGMT<br>Identifying types of farming | FARM MGMT<br>Acquiring the farm | FARM MGMT<br>Planning for the farm business | FARM MGMT<br>Recordkeeping in the farm business | FARM MGMT<br>Financing the farm business |

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| FARM MGMT<br>Identifying legal aspects of the farm business | FARM MGMT<br>Insuring the farm business | FARM MGMT<br>Calculating depreciation in the farm business | FARM MGMT<br>Using the computer in the farm business | FARM MGMT<br>Marketing and the farm business |
| AGRICULTURAL CHEMICALS AND PESTICIDE MANAGEMENT | AG CHEM/PEST<br>Planning for use of agricultural chemicals | AG CHEM/PEST<br>Listing pest control areas | AG CHEM/PEST<br>Identifying common pests | AG CHEM/PEST<br>Identifying characteristics of plant disease |
| AG CHEM/PEST<br>Managing pest control procedures | AG CHEM/PEST | AG CHEM/PEST<br>Using equipment in pesticide application | AG CHEM/PEST<br>Formulating pesticide materials | AG CHEM/PEST<br>Reading the pesticide label |
| AG CHEM/PEST<br>Interpreting pesticide laws--federal & state | SHOP ORGANIZATION AND SAFETY | SHOP ORG/SAFETY<br>Developing a home shop | SHOP ORG/SAFETY<br>Selecting equipment | SHOP ORG/SAFETY<br>Arranging equipment and supplies |
| SHOP ORG/SAFETY<br>Maintaining the shop | SHOP ORG/SAFETY<br>Practicing fire safety | SHOP ORG/SAFETY<br>Practicing electrical safety | SHOP ORG/SAFETY<br>Using hand tools safely | SHOP ORG/SAFETY<br>Using power tools safely |
| SHOP ORG/SAFETY<br>Using tractors safely | TOOL FITTING | TOOL FITTING<br>Practicing tool fitting safely | TOOL FITTING<br>Identifying cutting practices | TOOL FITTING<br>Determining cutting angles |
| TOOL FITTING<br>Selecting and using a power grinder | TOOL FITTING<br>Sharpening cutting edge tools | ELECTRIC WELDING | ELECTRIC WELD<br>Identifying terminology | ELECTRIC WELD<br>Listing types of electric welders |
| ELECTRIC WELD<br>Welding safely | ELECTRIC WELD<br>Selecting equipment | ELECTRIC WELD<br>Setting up a welder | ELECTRIC WELD<br>Preparing the metal | ELECTRIC WELD<br>Running a short bead |
| ELECTRIC WELD<br>Making butt welds | ELECTRIC WELD<br>Making filler welds | ELECTRIC WELD<br>Making vertical welds | ELECTRIC WELD<br>Making overhead welds | ELECTRIC WELD<br>Cutting and piercing |
| ELECTRIC WELD<br>Welding cast iron | ELECTRIC WELD<br>Soldering with welder | ELECTRIC WELD<br>Constructing a project | GAS WELDING | GAS WELD<br>Making gas welds safely |

GAS WELD
Selecting equipment

GAS WELD
Explaining the use of equipment

GAS WELD
Setting up and shutting down a gas welder

GAS WELD
Making fusion welds

GAS WELD
Making bronze welds

WOODWORKING

HAND AND

POWER TOOLS

WOODWORK
Using hand tools safely

WOODWORK
Using measuring devices

WOODWORK
Using marking tools

WOODWORK
Using hand saws

WOODWORK
Using shaping tools

WOODWORK
Using drilling tools

WOODWORK
Using finishing tools

WOODWORK
Calculating lumber specifications

WOODWORK
Identifying wood grades

WOODWORK
Using fasteners

WOODWORK
Calculating bill of materials

WOODWORK
Constructing a project

WOODWORK
Identifying power tools

WOODWORK
Using power tools safely

WOODWORK
Listing types of power tools

WOODWORK
Caring for power tools

WOODWORK
Using jig saw

WOODWORK
Using band circulating saw

WOODWORK
Using hand sanders

WOODWORK
Using table saw

WOODWORK
Using radial arm saw

WOODWORK
Using hand drills

WOODWORK
Using drill press

WOODWORK
Using wood lathe

WOODWORK
Using band saw

WOODWORK
Using the jointer

WOODWORK
Using the planer

WOODWORK
Constructing a project

CONCRETE

AND

MASONRY

CONCRETE/MASONRY
Demonstrating safety in concrete construction and masonry

CONCRETE/MASONRY
Selecting concrete mixtures

CONCRETE/MASONRY
Identifying materials and mixture ingredients

CONCRETE/MASONRY
Estimating amount of concrete materials

CONCRETE/MASONRY
Constructing forms for concrete

CONCRETE/MASONRY
Mixing concrete

CONCRETE/MASONRY
Placing concrete

CONCRETE/MASONRY
Finishing concrete

CONCRETE/MASONRY
Curing concrete

CONCRETE/MASONRY
Testing for quality

CONCRETE/MASONRY
Selecting materials for concrete masonry

CONCRETE/MASONRY
Laying masonry blocks

CONCRETE/MASONRY
Preparing mortar

CONCRETE/MASONRY
Constructing a model block building

BUILDING

CONSTRUCTION

| | | | | |
|---|---|---|---|---|
| BUILD CONST<br>Selecting common building materials | BUILD CONST<br>Laying out a building | BUILD CONST<br>Listing foundation requirements | BUILD CONST<br>Sketching and planning a building | BUILD CONST<br>Estimating building requirements |
| BUILD CONST<br>Calculating bill of materials | BUILD CONST<br>Cutting a common rafter | BUILD CONST<br>Constructing a model building | PLUMBING | PLUMBING<br>Using plumbing equipment safely |
| PLUMBING<br>Selecting plumbing materials | PLUMBING<br>Identifying plumbing tools and equipment | PLUMBING<br>Demonstrating use of plumbing tools | PLUMBING<br>Selecting fittings | PLUMBING<br>Measuring steel and wrought iron pipe |
| PLUMBING<br>Cutting and reaming pipe | PLUMBING<br>Cleaning and threading steel and wrought iron pipe | PLUMBING<br>Identifying uses of copper, galvanized and plastic pipe | PLUMBING<br>Assembling water type unit | PLUMBING<br>Identifying and explaining uses of pumps |
| PLUMBING<br>Constructing a plumbing project | PAINTING | PAINTING<br>Using painting equipment safely | PAINTING<br>Preparing an estimated budget | PAINTING<br>Selecting equipment and supplies |
| PAINTING<br>Mixing paints | PAINTING<br>Preparing painting surfaces | PAINTING<br>Applying paint | PAINTING<br>Identifying wood preservatives and finishes | PAINTING<br>Painting a project |
| GLAZING | GLAZING<br>Using glazing equipment safely | GLAZING<br>Selecting glazing equipment | GLAZING<br>Preparing a sash | GLAZING<br>Measuring glass |
| GLAZING<br>Cutting glass | GLAZING<br>Fitting glass | GLAZING<br>Applying putty and glazing compound | GLAZING<br>Glazing a window project | COLD<br>METAL |
| COLD METAL<br>Selecting metals for cold work | COLD METAL<br>Selecting and using layout tools | COLD METAL<br>Cutting cold metal | COLD METAL<br>Shaping stock | COLD METAL<br>Filing the metal |
| COLD METAL<br>Drilling the metal | COLD METAL<br>Tapping and threading metal | COLD METAL<br>Bolting and riveting the metal | COLD METAL<br>Constructing a project | HOT<br>METAL |

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| HOT METAL<br>Using hot metal safely | HOT METAL<br>Selecting hot metal working equipment | HOT METAL<br>Heating metal | HOT METAL<br>Cutting hot metal | HOT METAL<br>Drawing out metal |
| HOT METAL<br>Upsetting metal | HOT METAL<br>Squaring metal | HOT METAL<br>Bending and shaping metal | HOT METAL<br>Punching holes in metal | HOT METAL<br>Complete hot metal project |
| SOLDERING<br>AND SHEET<br>METAL | SOLDERING<br>Demonstrating safety practices for soldering | SOLDERING<br>Selecting soldering equipment | SOLDERING<br>Identifying types of solder and filler metal | SOLDERING<br>Soldering fluxes |
| SOLDERING<br>Completing soldering project | SOLDERING<br>Selecting sheet metal equipment | SOLDERING<br>Laying and cutting sheet metal | SOLDERING<br>Bending and shaping sheet metal | SOLDERING<br>Using a rivet set |
| SOLDERING<br>Fastening sheet metal | SOLDERING<br>Completing a sheet metal project | ELECTRICITY | ELECTRICITY<br>Identifying electrical terminology | ELECTRICITY<br>Identifying safety practices |
| ELECTRICITY<br>Identifying a given supply of wiring equipment | ELECTRICITY<br>Selecting equipment and supplies | ELECTRICITY<br>Planning a wiring system | ELECTRICITY<br>Grounding electrical devices | ELECTRICITY<br>Maintaining a wiring system |
| ELECTRICITY<br>Constructing an electrical project | ELECTRIC<br>MOTORS | ELECTRIC MOTORS<br>Outlining safety practices | ELECTRIC MOTORS<br>Identifying electric motor types and cases | ELECTRIC MOTORS<br>Explaining electric motor theory |
| ELECTRIC MOTORS<br>Demonstrating electric motor wiring and reversing | ELECTRIC MOTORS<br>Demonstrating wiring switches, relays and controls | ELECTRIC MOTORS<br>Maintaining electric motors | ELECTRIC MOTORS<br>Completing electric motor project | HYDRAULIC<br>SYSTEMS |
| HYDRAULICS<br>Outlining safety practices | HYDRAULICS<br>Explaining hydraulic system and operation | HYDRAULICS<br>Maintaining and operating hydraulic pumps | HYDRAULICS<br>Maintaining and operating hydraulic motors and cylinders | HYDRAULICS<br>Maintaining and operating reservoirs and safety controls |
| HYDRAULICS<br>Maintaining and operating draft controls | HYDRAULICS<br>Completing hydraulic system project | SMALL<br>GASOLINE<br>ENGINES | SM GAS ENGINES<br>Identifying principles of operation | SM GAS ENGINES<br>Using measuring devices |

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| SM GAS ENGINES<br>Listing component parts of a small engine | SM GAS ENGINES<br>Disassembling and measuring components of a small engine | SM GAS ENGINES<br>Maintaining a small gas engine | SM GAS ENGINES<br>Removing, replacing, refacing small engine valves | SM GAS ENGINES<br>Removing, testing, replacing engine ig |
| SM GAS ENGINES<br>Replacing main bearings | SM GAS ENGINES | SM GAS ENGINES<br>Reassembling and adjusting a small gas engine | SM GAS ENGINES<br>Reconditioning a small gas engine | AG<br>TRACTORS |
| AG TRACTORS<br>Identifying and listing components and parts of a tractor | AG TRACTORS<br>Servicing tractor fuel system | AG TRACTORS<br>Servicing tractor ignition system | AG TRACTORS<br>Servicing tractor tires and tracks | AG TRACTORS<br>Servicing tractor wheel bearings |
| AG TRACTORS<br>Servicing tractor cooling system | AG TRACTORS<br>Servicing tractor brakes, clutch, and final drives | AG TRACTORS<br>Demonstrating an engine disassembly | AG TRACTORS<br>Determining adjustment of an engine | AG TRACTORS<br>Cleaning and painting a tractor |
| AG TRACTORS<br>Completing a tractor servicing | AGRICULTURAL<br>MACHINERY<br>(VARIOUS TYPES) | AG MACHINERY<br>Following safety practices for machinery | AG MACHINERY<br>Using a service manual | AG MACHINERY<br>Identifying component parts |
| AG MACHINERY<br>Servicing and lubricating machinery | AG MACHINERY<br>Repairing machinery | AG MACHINERY<br>Reconditioning machinery | AG MACHINERY<br>Assembling machinery | AG MACHINERY<br>Calibrating machinery |
| AG MACHINERY<br>Cultivating equipment | AG MACHINERY<br>Using and maintaining disks | AG MACHINERY<br>Using and maintaining corn pickers | AG MACHINERY<br>Using and maintaining plows | AG MACHINERY<br>Using and maintaining mowers |
| AG MACHINERY<br>Using and maintaining manure spreaders | AG MACHINERY<br>Using and maintaining balers | AG MACHINERY<br>Using and maintaining levators, augers | AG MACHINERY<br>Using and maintaining blowers | AG MACHINERY<br>Using and maintaining wagons |
| AG MACHINERY<br>Using and maintaining forage choppers | AG MACHINERY<br>Using and maintaining spraying equipment | AG MACHINERY<br>Using and maintaining planters and drills | AG MACHINERY<br>Using and maintaining combines | |

## Appendix 6

## Schedule of Activities Labels

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|---|---|---|---|---|
| Schedule of Activities | Visitation (SOE) | State Degree | Judging Contest | Sale |
| Executive Committee | SOE Visitation | State Degree | Judging Contest | Sale |
| Executive Committee | SOE Visitation | National Degree | Judging Contest | Sale |
| Executive Committee | SOE Visitation | National Degree | Judging Contest | Conference |
| Advisory Committee | SOE Visitation | Fair | Exhibit | Conference |
| Advisory Committee | SOE Visitation | Fair | Exhibit | Conference |
| Program of Work | SOE Visitation | Fair | Prospective Students | Budget |
| Program of Work | SOE Visitation | Show | Prospective Students | Budget |
| Vacation | Vacation | Show | Prospective Students | Budget |
| FFA Activity | FFA Activity | FFA Activity | FFA Activity | FFA Activity |

# Appendix 7

# Student Evaluation Policy

# APPENDIX 7
# STUDENT EVALUATION POLICY

## Evaluating Occupational Skills

Evaluation in this area will be determined by the student's accomplishments in skills completed, project work, supervised occupational experience, performance testing, and the quality and quantity of his or her work.

Evaluation of these skills will be included in the percentages. Evaluation will take place a minimum of once per nine-week grading period. During periods spent in the shop, grading will take place on a regular basis on items such as work attitudes, behavior, and performance; work projects will be graded as they are turned in.

## Evaluating Classroom Learning

Grading in this area will be based on the extent of the student's knowledge as indicated by testing, quizzes, oral presentations, assignments, notebooks, and classroom attitude. When appropriate, student performance may be evaluated by fellow students. Tests and other written material will weigh in the final grade as appropriate to the amount of time spent in each area.

Students are expected to complete assigned work and to maintain their grading standards in the classroom through participation in all aspects of classroom activity.

## Evaluating Personal Characteristics

Desirable personal changes in the areas of organization, planning, attitude, cooperation, leadership, participation, personal hygiene, and responsibility, will determine the grade awarded the student. Participation in the FFA is an important part of the overall success of vocational agriculture. For this reason, part of the student's final grade is determined by his/her FFA activities.

Example of student activities broken down to achieve the final grade:

| | |
|---|---|
| Classroom achievement | 40% |
| Laboratory performance | 25% |
| Supervised occupational experience | 25% |
| Personal development | 10% |
| | 100% |

90-100 = A     80-89 = B     70-79 = C     60-69 = D     0-59 = F

# Appendix 8

## 9th Grade Unit and Problem Area Plan

## APPENDIX 8
## 9TH GRADE UNIT & PROBLEM-AREA PLAN

### Situation

Four year agricultural production program

Program divided—3 weeks classroom, 2 weeks shop, depending on need (time).

**9 week marking period, 36 weeks/year, 180 class meetings

Number of class periods allotted for units:

| | |
|---|---|
| Future Farmers of America | 15 |
| Leadership Education | 5 |
| Shop Organization | 15 |
| Wildlife Management | 15 |
| Shop Safety | 10 |
| Woodworking/Skills | 15 |
| SOEP | 15 |
| Dairy Production | 15 |
| Woodworking/Hand Tools | 15--include project |
| Woodworking/Power Tools | 15--include project |
| Vegetable Production | 15 |
| Beef Production | 10 |
| Painting | 5 |
| Sheet Metal | 15 |
| 14 units | 180 class periods |

## FOUR-YEAR VOCATIONAL AGRICULTURE

SCHOOL ____________________ COURSE OF STUDY STUDENT/TEACHER CONTACT TIME:

TEACHER Cromwell "UNIT TITLES" 9th 43*; 10th __; 11th __; 12th __

*either this or 86 minutes

| MONTH | PROGRAM | NINTH | TENTH | ELEVENTH | TWELFTH |
|---|---|---|---|---|---|
| SEPTEMBER | Classroom<br>Ag Mechanics | Future Farmers of America 15 | | | |
| OCTOBER | | Leadership Education 5<br>Shop Organization 15 | | | |
| NOVEMBER | | Wildlife management 15<br>Safety 10 | | | |
| DECEMBER | | Woodworking hand and power tools 15 | | | |

| NINTH | TENTH | ELEVENTH | TWELFTH | PROGRAM | MONTH |
|---|---|---|---|---|---|
| Supervised Occupational Experience 15 | | | | | JANUARY |
| Dairy Production 15<br>Hand Tools 15 | | | | | FEBRUARY |
| Power Tools 15 | | | | | MARCH |
| Vegetable Production 15 | | | | | APRIL |
| Beef Production 10<br>Painting 5<br>Sheet Metal 15 | | | | | MAY |

## "PROBLEM AREA TITLES"

SCHOOL ____________________

FOUR-YEAR
VOCATIONAL AGRICULTURE
CURRICULUM

GRADE LEVEL 9 Or VoAg I

TEACHER Cromwell

DATE ____________________

| M | W | 1 | 2 | 3 | 4 | |
|---|---|---|---|---|---|---|
| SEPTEMBER | C<br>S | UNIT: FFA<br>Identify objectives and goals | Identify historical development<br>List activities and awards | Identify organizational structure<br>Implementation of the above | | |
| OCTOBER | C<br>S | Develop a home shop | Select equipment<br>Arrange equipment and supplies | Maintain the shop | Demonstrate communication ability<br>Develop officer training | |
| NOVEMBER | C<br>S | Fire safety<br>Electrical safety | Hand tool safety<br>Power tool safety | Outline history of wildlife conservation<br>Identify ecological concepts | Identify wildlife in the environment<br>Study wildlife habitat | |
| DECEMBER | C<br>S | List factors limiting wildlife populations<br>Outline safety and wildlife | Safety using hand tools | Use measuring devices<br>Use marking tools | | |

|  |  |  |  |  | W | M |
|---|---|---|---|---|---|---|
| Calculation of lumber specifications<br>Calculation of bill of materials | Identify the purpose of SOE<br>Identify types of SOE projects | Identify record-keeping in projects | Develop project goals<br>Develop budgets |  | C<br>S | JANUARY |
| Use hand saws<br>Use drilling tools | Use finishing tools<br>Use shaping tools--plane, rasp, sandpaper | Construct a project | Select dairy cattle |  | C<br>S | FEBRUARY |
| Judge and show dairy cattle | Plan for proproduction | Safety using power tools<br>Use jig saw<br>Use the planer<br>Use table saw<br>Use radial arm saw<br>Use drill press | Use hand sanders<br>Use hand circular saw<br>Use band saw<br>Use the jointer |  | C<br>S | MARCH |
| Construct a project | Plan for vegetable production<br>Plan the garden | Select the varieties<br>Prepare the soil | Outline a fertility program<br>Plant crops | Control pests--weeds, insects, and diseases | C<br>S | APRIL |
| Safety practices in painting<br>Select equipment and supplies<br>Prepare painting surfaces<br>Apply paint<br>Paint a project | Select beef cattle | Judge and show beef cattle<br>Breed beef cattle | Select sheet metal equipment<br>Lay and cut sheet metal<br>Bend and shape sheet metal | Fasten sheet metal<br>Complete a sheet metal project | C<br>S | MAY |